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THE CHICAGO

MEDICAL EXAMINER,

A MONTHLY JOURNAL DEVOTED TO THE

EDUCATIONAL, SCIENTIFIC, AND PRACTICAL INTERESTS

OF THE

MEDICAL PROFESSION.

EDITED BY

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THE

CHICAGO MEDICAL EXAMINER.

N. S. DAVIS, M.D., EDITOR.

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Original Contributions.

ARTICLE I.

CHRONIC INFLAMMATION OF THE OS AND CERVIX UTERI.

BY NOBLE HOLTON, M.D., Buda, Ill.

It is not uncommon for us to be called to see ladies, who are out of health, and not confined to their beds constantly, and yet suffer to such an extent as to make them say, oftentimes, that they wish they could be relieved, even by death. They are hardly able to give expression to their feelings, or to give any symptoms, or aggregation of symptoms, that would account rationally for their feelings. By careful investigation, however, we can draw out a rational and connected history, pointing to the uterus, as the organ primarily at fault. The digestive organs are as soon noticed to be in an abnormal condition, perhaps, as any other. This is not at all surprising; for the physiological condition known as pregnancy produces remarkable effects on the digestive organs, and is not a disease at all, but does it through sympathetic nervous action. Anorexia, flatulency, constipation, gastralgia, and sometimes nausea, with loathing of food, are some of the symptoms in connection with the digestive organs.

These symptoms vary in degree, from the slightest functional

15273

disturbance to the greatest intensity; and just in proportion to the violence of these symptoms will be the chlorotic or anæmic condition of the patient. Constipation is an early and very damaging symptom, for it is not only a source of irritation, by its proximity to the uterus, but, by the straining necessary to evacuate the bowels, when loaded with hardened feces, the effort forces the os uteri against the distended rectum, thus greatly increasing the disease of the uterus.

Some ladies describe the pain of such action of the bowels to be about as bad as labor at full time. Under this condition of the bowels, the womb is forced down and its ligaments stretched out, each time the bowels are emptied, till they become relaxed to such an extent as to allow the os to rest against the rectum constantly.

The resulting irritation soon sets up or increases the inflammation, thus increasing its weight, and the weight increasing the prolapsus, and the prolapsus increasing the constipation, by mechanical obstruction.

Constipation is quite a constant symptom in chronic inflammation of the os and cervix uteri, and generally depends upon want of tone in the muscular structure of the bowels; but occasionally the inflammation extends to the mucous membrane of the bowels, to a sufficient extent to produce a mucous diarrhœa, from irritation, or, otherwise, to alternate constipation and diarrhœa, or to cause the formation of tube casts of the rectum, of muco-fibrinous character. All these conditions are accompanied with tumultuous movement of gas in the bowels and stomach, or with annoying distension or borborigmus, at times. In some cases, particular kinds of food appear to aggravate these symptoms, but in others they have no effect of that kind.

In regard to the nervous symptoms complained of by those suffering from this disease, their "name is legion;" and you must not accuse them of affecting them at will, if they experience a transition from the most extreme suffering and pain, and cramps, to a condition of calmness, or even of hilarity, in a moment. Both conditions are uncontrollable and unaccountable.

Cephalalgia is, like constipation, nearly a constant symptom of endocervicitis; and the occipital pain, of a burning character, is, perhaps, the most constant; but cephalalgia, confined to a particular place on the head, as the summit, or the temple, should direct your investigations to the uterus. Ladies suffering from endocervicitis will often call your attention to the spinal column, and claim they have spinal disease; but the pain at the lower end of the spine is caused by pressure from within, and that in the dorsal region, and through the sides and stomach, from the derangement of the digestive organs and portal circle. These nervous phenomena are often developed in violent hysterical paroxysms. One of these attacks being the occasion of your first call to see these cases, and if the real condition of the uterus is not recognized and treated, you will have repeated calls, on account of the same symptoms, with no lasting benefit resulting from your treatment. If you would relieve yourself of the opprobrium of the "no account doctor" and feel yourself satisfied, and have your patient satisfied likewise, that she was in the way of ultimate recovery, you must pay attention to, and treat, the uterus. Pain in the anterior crural nerve, and, also, in the sciatic nerve, are quite common, and are dependent upon pressure, instead of reflex action or neuralgia. If this mistake is made, and a corresponding treatment carried out, the result will be unfavorable.

Respiration is very curiously affected in this disease, sometimes. A case I have now under treatment has apparent spasm of the diaphragm, so that the respiration is entirely thoracic; and she thinks she will have to stop breathing entirely.

During these spells she has to be in the strongest current of cold air she can find; and then they last from fifteen minutes to an hour. These symptoms, with various irregular and spasmodic action of the respiratory muscles, together with that peculiar feeling of constriction of the throat, as if a ball was raising up in it, are some of the effects of this disease upon respiration.

A lady spoken of by Prof. W. H. Byford, of Chicago, by heaving up the lower part of her chest, made her friends think

she was suffering from violent palpitation; but when asked to hold her breath immediately became contemptuously calm.

At another time, she imitated throbbing of the temples, by sudden contractions of the temporal muscles; and when asked to open her mouth as wide as she could, again subsided. The circulation is often unequal, the extremities being cooler and the head hotter than in health.

In examining one of these patients, some months ago, the tumultuous action of the heart was such that I was afraid of organic disease of that organ; and, upon auscultation, at the same time, having my fingers upon the pulse, at the wrist, some beats of the heart could not be detected, at the wrist. This indicated insufficient valvular force; and for a week I reserved my prognosis, from fear of a fatal result, from lesion of the heart; but when visiting her one day, there were such marked hysterical phenomena that my fears all vanished, and the patient is still alive.

These are some of the prominent symptoms of disease of the uterus, and I have dwelt so long on these general symptoms and sympathetic uterine diseases, that Dr. Hodges' remark, in his work "Diseases of Women," is brought forcibly to mind: "That if this all be true, it is a pity a woman has a womb;" yet, as remarked of old, "the half is not told," is as true in reference to the subject under consideration, as it was of Solomon. Of all these symptoms there is no one that may not occur in a person who has a healthy uterus; but when we find an aggregation of these symptoms, they call your attention to the womb as the cause, and if you do not follow up the investigation to an ocular demonstration, as to whether the womb is healthy or not, you will not have done your whole duty. In so doing, you will be able to so direct your efforts to cure, as to be quite certain of results; and this is of importance, as patients do not like to take medicine without some benefit, and it is not pleasant to me to treat a case a long time, and then find a mistaken diagnosis. This brings us to the consideration of the local symptoms, and in doing so, let me say, the local and general symptoms may bear no relation to one-another, in many

cases; for when the general symptoms are violent, the local disease may be slight, and "*vice versa*," according to peculiarity of constitution or temperament.

Leucorrhœa is a strong symptom of uterine, os, and cervical inflammation, and also of ulceration. We do not expect sufficient secretion of mucus, even from a mucous membrane, to inundate the parts and appear externally, and when it does so appear we suspect disease. A male urethra showing a gleety discharge, we say, is an inflamed urethra; and the same may be said of other mucous membranes, the rectum, or the conjunctival mucous membrane. If the leucorrhœal discharge is purulent, or greenish, or yellowish, with fœtor, we conclude ulceration accompanies the inflammation, and is, in a degree, a worse disease. This discharge is known among the ladies as "whites," and appropriately enough too, when it arises simply from inflammation; for as the discharge passes from the womb into the vagina, it is of an albuminous character, and meeting with the acid of the vagina, it is coagulated, and when it appears externally it is of an opaque whiteness, on account of these minute coagula.

When all the acid of the vagina is used up and the discharge continues, it is seen to be a tenacious, glairy mucus; but this should not be mistaken for the vaginal mucus, arising from glandular excitement, that will not discolor the linen, and is a healthy discharge. Quantity of discharge does not correctly indicate extent of disease, for ulcerated surfaces differ in amount, and some secrete none at all, and the rapidity of absorption is different in different cases.

The pains in the illia, loins, groins, and sarcal region are more due to that vague and indescribable condition known as sympathetic than they are to pressure or traction on the uterine ligaments, and easily disappear upon the cure of the inflammation. Hemorrhoids is often caused by the pressure of the uterus, accompanied with constipation upon the hemorrhoidal vessels; and if it has continued a long time will have caused deposition of fibrin or tumors, or other change of structure. The results will not be cured when the uterine inflammation is,

but will require special attention afterwards. Ordinarily the sensation of bearing down is on account of the increased weight of the uterus, from inflammation, and loss of tone of the ligaments of the womb, and is no more complained of when the uterine inflammation is cured. Sometimes it is only apparent, and is accounted for by irritability and exalted sensibility, from inflammation; in others there is real displacement, that may require treatment, after the primary disease is cured.

Menstruation is generally affected by uterine inflammation, but not invariably. It is not regular as to time, it being sometimes delayed, and again more frequent than natural. A case under my care last year had not menstruated for five years, but after four months' treatment they (the menses) were reëstablished. Another case had profuse menstruation at the regular time; and, between the periods, bleeding would occur from the slightest disturbance. The function of reproduction is often suspended in ladies suffering from this disease. One of my patients had been married nine years, and had never been pregnant, but after three months' treatment became so, and has now a living child.

Abortions frequently occur in consequence of it, and inflammation is often caused by forced abortions. It is possible, however, for a woman to get pregnant and bear living children, even if she is suffering from inflammation of the womb; but, commonly, it occasions sterility. Endocervicitis is, indeed, a more common cause of sterility than any other.

It is not supposed that this disease affects labor one way or the other, but the effects upon the *post partem* condition are slow involution, a tedious getting up, a longer continuance of the lochial discharge, and more danger of metritis, phlebitis, and pyæmia.

Some physicians have been in the habit of recommending ladies to marry who were suffering from this disease, and encouraging them in the belief, that if they became pregnant, they would be cured by it. It may be possible pregnancy has cured this disease, but I do not believe it, and would recommend the cure of the disease previous to pregnancy; for sexual

pleasure, indulged in, as it usually is, by newly married people, would not only increase it, but might even produce it.

Some of the causes, besides gross sexual indulgence, are the reading improper books, that keeps up a continual hyperæmia of the sexual organs, till it results in inflammation. Of all the causes, according to my observation, constipation is the worst; and it is strange that so many ladies so utterly neglect this important function, and, by carelessness, contract so bad a habit as to go days, and some of them weeks, and even over a month, without an evacuation of the alimentary canal. I have now under observation a young lady, who has not, on an average, had a movement of the bowels more than once a month, during the last two years, and has gone as long as eight weeks and five days. The same person has been four days and some hours without passing urine, and her menstrual function is irregular. Doubtless she is affected with endocervicitis, but I have never had an opportunity of verifying it by the adequate examination. She is able to be about most of the time, and does not show signs of disorganization sufficient to terminate life soon. Certain kinds of business that make it necessary to be on the feet standing or walking, a long time, are prolific causes of this disease; and, I believe, a pretty constant use of the sewing machine is a cause. Those miserable "Jew devil" appliances, known as abdominal supporters and pessaries are frequent causes. I know of no abdominal supporter but what, by pressure against the abdominal walls, tends to displace the viscera, those below it downwards, and those above it upwards, and, in this way, tend to produce the disease. Use a tight corset and an abdominal supporter, and you have a good combination of causes. If there is any pessary that is worthy of trying at all, it is my opinion Babcock's, and of this I am not prepared to give a verdict, till further proof, but the principle seems to be philosophical. Cold during the menstrual flux, sudden jolts, or severe exercise are causes.

Gonorrhœal vaginitis, by extending to the os and cervix uteri are causes. In regard to prognosis, there appears to be no tendency to a spontaneous cure; and although it may not

be necessarily fatal in itself, it is dangerous about the crisis of life, and, doubtless, many women die at that time, who are suffering from this disease, that would not have died if the endocervicitis had been cured. It may be fatal in inducing other disease, and, at all events, the sufferer will never be well, and, yet, at times will be much worse than at others. If one of these patients is provided with the most favorable hygenic influences, her constitutional symptoms will be improved, but her local disease will not be cured, and she will lapse again into bad health. It is possible, some may get well after the turn of life, but some of the most obstinate cases met with have passed that stage.

The prospect of cure, under appropriate treatment, is exceedingly good, but what particular per cent. of cures, I have no means of knowing.

Cure means the healing of all complaints connected with this inflammation, and not alleviation or cure of part. Those cases of hemorrhoidal tumors, and those of hardened or nodulated os, or any case in which there is deposition of fibrin, may be exceptions, or at least require special treatment. These cases, and those in which the inflammation extends through the cervical canal, will be more intractable to treatment than those where the disease is confined to the os. Endocervicitis cannot be cured in less than from three to twelve months; and it is better to tell our patients this than to have them expect to be cured sooner, and be disappointed. Some of them will begin to feel better pretty soon after treatment is commenced, and others not till it is nearly completed, because some remnants of the disease remain, although in process of cure. For instance, when treating chronic ulcer of the leg, it is seen to be healing, but not healed. Young ladies, as a general thing, will respond to treatment sooner than older ones. Persons who have a hereditary predisposition to insanity will be likely to have it excited by this disease, therefore, it would not be safe to promise too much to this class of persons. In order to be certain of diagnosis, it is necessary to see the parts diseased, and to do this, certain instruments are to be used, and the same instruments will be

useful in the treatment. They are a speculum, which should be quadrivalve and supplied with a director, that can be withdrawn after the introduction. A pair of dressing-forceps, sufficiently long to easily reach the parts under examination, and a flexible uterine probe or sound, and some cotton. It will be advisable to first examine the parts with the first and second finger, for the purpose of ascertaining the situation, the heat, dryness, tenderness, hardness, and general condition of the parts. Directions for the manner in which this should be done, and also in regard to the introduction of the speculum, can be found in the published works on these diseases, for instance, Prof. W. H. Byford's work, "Medical and Surgical Diseases of Women," and others. After the os is fairly in the mouth of the speculum, the appearance of it as to color, size, and form is to be observed; always bearing in mind that when they are healthy, the color is like that of the mouth (the mouth, that is between the jaws, and contains the teeth, tongue, etc.), and when inflamed is redder, and if ulcerated, is still redder than natural. If the examination is not carefully made, and the secretions thoroughly wiped away with the forceps and a little cotton, we may be deceived as to the true condition of the parts; for the secretions are quite tenacious and obscure the real color of the parts. This shows the condition of the os; and if there is secretion oozing from the cervix, inflammation of the cervical canal may be suspected; and the condition should be determined by examination with the probe as to the size and sensibility. If, in passing the probe through the cervical canal, a sensation of smarting or rawness is produced, there is ulceration; and if it is found to be much enlarged, hardened, or nodulated it has probably been diseased for a long time. You should also observe the condition of the rectum, at this examination, whether it is loaded with fecal matter or inflamed, as also the bladder and urethra, for they are both likely to be diseased, and, if so, should receive our attention.

The os uteri, in a virgin, has a rounded shape, with a circular opening of small size, or a short slit, with no labia, as in the mother; and in old age, the os seems like a hole at the bot-

tom of a *cul-de-sac.* It is expected that the os uteri and vagina will be moistened with secretion, in a normal condition, but if the parts are profusely smeared or inundated with it, there is disease.

Again, if there is pus mixed with the mucus, there is ulceration as well as inflammation; and the more secretion there is the greater the departure from health. After such an examination, and if such symptoms and conditions are seen, we unhesitatingly say, there is inflammation and ulceration, one or both. If the appearance should be such as to leave any chance for doubt, the application of lunar caustic to the suspected part will relieve it, because an inflamed or ulcerated mucous membrane will instantly turn white under the influence of it, whereas a healthy one will not.

The one disease for which this may be mistaken is cancer, in some of its stages; but the characteristics of cancer, now so well-known, must be your guide. In cancer, when in a schirrous condition, the cervix is hard, unequal, and nodulated. Discharge sometimes absent, in others abundant and serous. Pain in cancer sharp and lancinating. Not unfrequently accompanied with hemorrhage, in the ulcerated stage, and adhesions to other parts. Ulcerations, deep and irregular, with hard edges. These are some of the characteristics of cancer.

When we come to estimate the treatment of disease, we meet with the difficulty of properly estimating the amount that should be credited to nature, and that to the remedial agent used. If these cases, when under the most favorable hygienic circumstances, do not get well, without medical treatment, and do get well when remedial means are used, this is satisfactory evidence that our course of treatment has been beneficial. In no kind of cases has there been better evidence of benefit from treatment than in the one under consideration; and I am as thoroughly convinced that constitutional treatment alone is inadequate. Hygienic means, without other aid, will so fail. Do not understand me to say that they (the hygienic and constitutional) are to be neglected, but, by all means, they are to be

secured to the greatest possible extent, and are entitled to credit, to the full amount of benefit they confer. A class of physicians have arrayed themselves against the treatment of endocervicitis, by the local application of caustics; and, I ask, why are they not opposed to the local application of medicine, to granular conjunctivitis, with the same propriety? Why do they not treat the latter disease by constitutional means alone? I suppose they have seen the effects of strong stimulants, in, at first modifying, and then curing, it. All right—so have I, in reference to the treatment of inflammation and ulceration of the womb. We will then make use of all means known to have a favorable effect upon disease, in our course with these cases; and prominent among them shall be local applications, directly to the part diseased, through the agency of the speculum.

A judiciously directed system of exercise, such as riding, walking, or any suitable out-of-door exercise. A well-regulated, nutritious diet; and this should be so directed as to influence the constipation, that so often accompanies this disease. Sexual intercourse must be strictly forbidden, for the irritation consequent upon the act will do more harm than your treatment will do good, subjecting the attendant to failure. There is a particular nervous prostration which occurs in some of these cases, although hæmatosis and nutrition are fairly performed, which will need attention. They will assure you they are so weak they cannot rise from the bed, and that they are ready to commit suicide, and that they know they cannot be cured. It is important that the confidence of such patients is secured, and they be assured that others have been troubled with the same feelings, and are now well, and that she will see all these troubles subside, as she progresses towards cure.

One thing I must say here, in reference to those exceedingly depressing paroxysms of nervousness, often met with in these cases, and that is the effect of cold air. It is truly surprising how soon they will be comfortable if you open all the windows and doors, having the body comfortably covered, and let a draft of cold air pass through the room, clearing it of visitors. The continuance of the cold must be left to the judgment, in each

case; but we should advise them to sleep in a cold room and be much out of doors.

In regard to constipation, something has been said, but much more should be said than I have space for. For the most part, persons become constipated by carelessness and inattention, thus forming an irregular habit; the bowels become distended and weakened, and relaxed, thereby perpetuating the condition. In our directions to such persons, we should impress upon them the necessity of forming a regular habit of evacuating the bowels, at a regular time, and that they should let nothing hinder them from attending to it, and that it is as easy to form a regular habit as an irregular one. All that can be done in this way, or by diet, or exercise, or drink, or by the use of our seedy berries and acid fruits, will be better done than by the use of medicines. The use of purgatives, and, particularly, of the thousand and one pills found in every drug-store, are a prolific cause of constipation, and their use is not only unphilosophical but reprehensible. Yet it will often be found necessary to empty the bowels; and if the fæces are uniformly dry, a saline laxative will be indicated, and of these, the sulphate of magnesia is the best. If it is administered with a little sulphuric acid it will not disappoint you.

It may happen here, in the West, that the portal circle is slow, in which case, two grains of calomel or ten grains of blue-mass, taken at bedtime, and followed in the morning with a saline laxative, will be the best, and may be repeated every five days, till the torpidity is removed. For that kind of constipation, dependent upon a loss of tone in the structure of the bowels, the nux vomica is the remedy "*par excellence*," that will do most good; and as anæmia is a frequent concomitant, in these cases, the nux vomica may be usefully combined with iron. Rhei, as an alimentary tonic, is a valuable laxative, and is not open to the objection that it loses its susceptibility upon the bowels, as so many medicines do. A good combination is the following:—

℞. Strychnia,---------- gr. j.
Ext. Rhei,---------- ℥ iss.
Sul. Ferri, ---------- gr. x.

Mix. Make into 16 pills, and give one after each meal, or less frequently, as may be thought best; not forgetting to observe the cumulative effects of the strychnia. Or five grains of pul. nux vomica, and one or two grains of sul. quinia, in the same way; and, at the same time, taking the pyrophosphate of iron, in two grain-doses, three times a day. In plethoric cases, the use of bromide of potassa or ammonia will be found useful in controlling nervous excitability.

We will now consider the local means found useful; and prominent among them are the nitrate of silver, caustic potassa, acid nitrate of mercury, tannin, tinct. iodine, liq. ferri per sulphas, and some other stimulating astringents. There is no doubt, the nitrate of silver will suit, generally, the best of any of them, and is the one usually resorted to first. For a port-caustique, the holder should be flexible, so as to be made to conform to the different curvatures of the cervix; for it will be necessary to reach the whole cervical canal, in case the disease is thus extensive. The piece of caustic should be half an inch in length, of the cylindrical sticks found in the shops; and after introducing the speculum and getting the os uteri nicely in it, the secretions are to be carefully wiped away with the dressing-forceps and a little cotton, and all the inflamed and ulcerated surfaces deliberately touched with caustic. This is to be repeated in from five to seven days, while a vestige of disease is left, except during the menstrual flux. Some cases will bleed upon the slightest disturbance, in which case, the liq. ferri per sulphas may be used on a swab of cotton, to commence with, once in four days, till the tissues are condensed, and then the caustic, to complete the cure. The nitrate may fail, in some cases, or do harm, and have to be abandoned. Why? is not easy always to explain. It may not be strong enough to arouse the capillaries to action, and we be compelled to resort to something more powerful. The caustic potassa is one, and the acid nitrate of mercury is another, that may be tried; and after one

or two applications, a month apart, the nitrate of silver may be again used with benefit.

During the whole treatment, a system of bathing should be carried out, for the purpose of cleanliness, and to reduce the local congestions. The sitz bath, of a temperature agreeable to the patient, can be used, at least twice a day, and three or four times, in some cases, with benefit. A womb bath is also useful. It may be used by having two vessels, one with six or eight quarts of water in it, of a suitable temperature; the water may be thrown into the vagina with an extension syringe, and allowed to run into the empty vessel. These baths wash away the secretions and reduce the inflammation. For the purposes of cleanliness, a general bath should be used, two or three times a week. The water should be tepid at first, and used gradually cooler and cooler, till it is used cold. Astringent injections into the vagina are useful, through the whole treatment. A suitable one is, water, one quart, and alum, one drachm. The length of time which should intervene between these injections will vary somewhat, but should never be repeated till the parts have become uniformly moist, for some hours.

A weak solution of sul. zinc, or copper, or nitrate of silver may be used for a vaginal injection. It will always be advisable to use water to wash away the secretions, before using the medicated injection, so that the astringent may come in contact with the diseased mucous surfaces, in its full strength. It may happen that in using the vaginal injection, with a tube having several perforations, that one of them is opposite the mouth of the womb, allowing the water to enter the neck and pass along into the uterus. This produces spasmodic pain in the womb, perhaps, for the purpose of expelling it; and these pains extend to the back, the person's extremities become cold, with sickness of stomach, making quite an alarming array of symptoms.

Such symptoms will readily subside if an opiate is given and hot fomentations applied to the abdomen. During treatment with the nitrate of silver, the os and cervix contracts, so as to prevent the free discharge of the menstrual or other secretions, thereby causing pain. Bougies may be used to dilate the cer-

vical canal, and they also exert a favorable influence upon the inflammation, by pressure upon the capillaries.

These bougies may be made of gum, or slippery elm, or metal, or sponge. A piece of slippery elm bark, cut two inches long, and of the proper size, having a thread tied to it long enough to reach out externally, may be introduced into the cervix, and allowed to remain 24 hours. This should be repeated every five days, as long as necessary. Medicines can be introduced in this way, if thought best; and the first appropriate case I see, I mean to use, in this way, carbolic acid in glycerine, confidently expecting favorable results from it.

In very aged persons, the nitrate will make them worse, as the inflammation assumes a peculiar character, the granulations being extremely minute, and of a bright scarlet color. The potassa fusa or acid nitrate of mercury applied a few times, at intervals of a month, and then followed by applications of solid sulphate of copper, will be better.

Submucous inflammation, in connection with mucous inflammation and ulceration, is a frequent complication, and deserves some notice. If there is unusual tenderness, upon pressure with the probe or finger, of the cervix, and if heat and swelling accompanies the tenderness, the submucous inflammation will require separate attention. If there is not much tenderness or swelling, it will subside when the mucous inflammation is cured, by the means formerly indicated. The special means used for the submucous inflammation are, leeches, alteratives of calomel, followed by sul. magnesia or Seidlitz powders; and if leeches are not at hand, scarifications may be substituted for them.

These means, together with the thorough use of the sitz and womb baths, will generally meet your expectations. When I commenced this paper, I designed giving some cases in detail, but it has been drawn out to such unusual length, I forbear. If the course here indicated is thoroughly carried out, the profession will all have detailed cases of cures to relate; for, I am sure the disease, although not disposed to spontaneous cure, can be cured in this way. So confident am I, that when I hear of an apparent failure, I attribute it to lack of thoroughness. In

conclusion, if the members of the Society and the profession are induced to give this class of sufferers a more careful and considerate attention, my object will be gained, and I feel repaid for my trouble.

Buda, *December 4th, 1869.*

ARTICLE II.

THE ESTABLISHMENT OF A LINE OF IMMOBILITY IN PLASTIC OPERATIONS.

By DAVID PRINCE, M.D., Jacksonville, Ill.

It is the purpose of this short article to ask the attention of the profession to an element in plastic surgery, first publicly suggested by the writer in a monograph on orthopedic surgery, published by Lindsay & Blackston, in 1866, and repeated at greater length, with an illustrative wood cut, in a Report on Plastics, made to the Illinois State Medical Society, in 1867, and also reprinted as a monograph.

The plan is so simple, that it would seem that it must have been thought of among the first expedients put in practice, but the writer has not been able to find any reference to it anywhere.

The plan is especially applicable in cases of depression and eversion of the lower lip, consequent upon the contraction of cicatrices from burns upon the neck and chest. Much ingenuity has been displayed in attempts to secure the replacing of the lip, so that the unfortunate sufferer might be able to hold his saliva, but the contraction of the cicatrical tissue upon the neck has in almost all cases drawn the lip down again.

The simple expedient adopted by the writer, is to make a curved incision across the neck, far enough below the chin, so that when the flesh is made to slide up in front of the chin, the lip shall be effectually bolstered up. The periosteum along the base of the jaw is scraped off so that the lower edge of the

flap must attach itself to the bone. After this there can be no possibility of any traction upon the lip below.

Fig. 1.—The condition previous to the operation.

The lower lip is drawn down below the level of the shoulders.

Fig. 2.—The condition after the operation.

The lip is completely restored to its proper place and function, though the bridles upon the neck remain.

The accompanying wood cuts, Figures 1 and 2, illustrating a case of extreme eversion of the lip, and its complete restoration, may help to make the explanation more clear. The dotted line indicates the place of incision. The plan was not thought of until after other methods of sustaining the lip had failed.

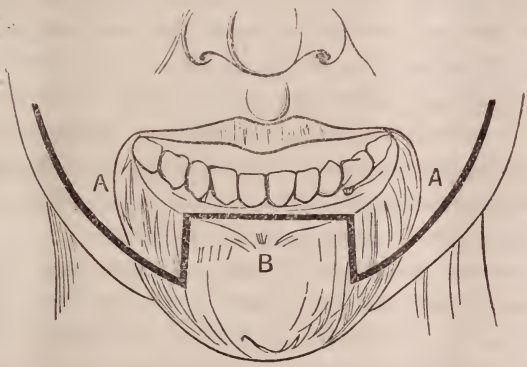

Figure 3.

In order to show how great an advance this simple expedient is upon anything which had preceded it, the next two cuts, Figures 3 and 4 are introduced.

This is Teale's operation for eversion of the lower lip. A new lip is made upon the top of the old one.

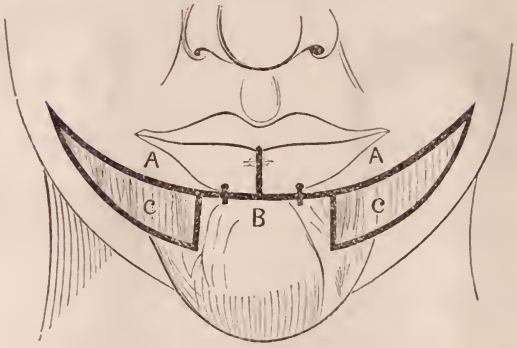

Figure 4.

The heavy black line, A, B, C, shows the place and direction of the incision. The parts above this line are freely dissected up from the bone, and brought together, the vertical lines coming together at the middle line of the new lower lip. The corners of the mouth are extended by Dieffenbach's method, and the spaces C, C, are left to be covered by granulations.

A horrid deformity must always remain; while, by the plan introduced by the writer, no deformity whatever can be seen upon the face, and the bridles upon the neck are not made any worse by the restoration of the lip to its proper position.

The remaining deformities of the neck and chest can be treated by subsequent transplantations of integument. If this treatment for the neck and chest should not be attempted, or if it should be unsuccessful, the most important object, the restoration of the lip will have been accomplished.

This communication might seem unnecessary, and it would be, except for the fact that proper credit has been withheld by high authority. A Boston reviewer of the Report on Plastics, in which the operation was first carefully described, said of the report, in substance, that the portions which were claimed as new were not new, and what were admitted to be old had been better written in books everywhere accessible.

The operation is understood to have been very successfully

repeated in Chicago, in a public institution, without any notice of its origin.

The readers and reviewers of this article will confer a favor upon the writer, by showing that with regard to this operation the Boston reviewer was right.

ARTICLE III.

THE BROMIDES.

By F. K. BAILEY, M.D., Knoxville, Tennessee.

In prefacing a few observations upon the bromides, it may not be amiss to allude to bromine as a therapeutical agent.

It was extensively used as a topical application in hospital gangrene, during the war. In 1863 and 1864, a good many cases came under my care and observation, and nothing could be more obvious than its value in arresting the spread of the morbid influence, and placing the parts in a condition for healing. Pure and undiluted, it did not fail in a single instance, and many an ex-soldier can now attest its virtues, and will also say, that like the rod in the hands of a parent, it caused a smarting "while it made him better."

Of the bromide of sodium I have seen but little in its action upon the animal economy. By some it is more highly esteemed than the bromide of potassium.

The bromide of ammonium I have used somewhat in the last year, and found it very useful in some forms of nervous disturbances. It acts more directly upon the nervous system, and is valuable when stimulation is required. In my practice, during the last two or three years, I have used bromide of potassium very freely. Among the first cases I treated after coming to this city, was that of a lady aged about 35, married, and mother of one child, which died some years ago. I saw her in November, 1867, and found that during the spring previous she had an attack of acute cystitis. After the violence of the symptoms subsided, dysuria followed, continuing all sum-

mer, together with facial neuralgia. When I first saw her she was suffering from chronic inflammation of the mucous coat of the bladder. The urine was alkaline, and was loaded with a thick mucus, which filled sometimes one-half of a vial in which it had been collected. There was severe pain referred to the fundus, besides great irritation along the urethral canal, and at the external meatus. There was also a good deal of pain in the region of the kidneys, caused by sympathy, as well as some local congestion. There was emaciation; some cough, and great depression of spirits. There was a dark, yellowish hue to the skin, and troublesome constipation. Her former medical attendant, who was leaving the city, informed me that he had a short time before commenced the use of bromide potassium, with tonics and mild alteratives. I prescribed as follows:—

℞. Bromide of potass., ---------- ℥iij.
Fluid ext. stillingia, } āā ---------- ℥ss.
Syr. aurantii cort., }
Sulph. Cinchoniæ, ---------- ℈j.
Aqua Cinnamonii, } āā ---------- ℥j.
Aqua Pura, }

M. F. Mix. Sig. Teaspoonful morning and night.
To take spts. nit. dulc. *pro re nata.*

The above was taken for several weeks, with the alternation at times, of syrup of iodide of iron. During the winter there began to be some improvement. But it was nearly a year before the mucus ceased to be voided. At times, when the urine was most alkaline, the mucus would be most abundant, and the distress in the bladder and dysuria would be aggravated. During the summer of 1868, she became quite comfortable, and took little or no medicine. In the autumn, there were some indications of a relapse, but a return to the bromide, with tonics, soon averted the disease. During the past year she has been scarcely at all troubled, and considers herself cured of cystitis.

During the autumn of 1867, I met with a case of epilepsy, which seemed a favorable one for the trial of the bromide. It was a colored man, of 50 years or more, and possessing more than the ordinary amount of intelligence for one of his race.

He purchased his freedom, and that of his wife, some years before the war, and worked on his own account as a tinner. Up to 1861, he had acquired some property, which, with his prospects for the future, soon vanished as the war began. Poverty and disappointment, consequent upon his reverses, caused a depression of spirits. Being something of a preacher as well as mechanic, in 1865 he began to be particularly interested in measures for the good of his fellow blacks. Mental excitement soon began to increase a former tendency to cerebral disturbance, which culminated in epilepsy, and in the summer of 1867 he had the first fit. He had taken bromide potass. for a short time before I saw him, and I continued its use, together with tonics and laxatives. For a year or more, the disease seemed stayed; but since last spring the fits have come on again, at long intervals, with the lesser symptoms intervening.

In the August number of the *Examiner*, are some cases reported by Salvator Cass, M.D., upon the use of this salt in summer complaint, and I prescribed it for a patient then under my care. It was a female child, 10 months old, that had suffered from difficult dentition for some weeks. Gave one and a-quarter grain, in mucilage, every four hours. Next day called, and found no diarrhœa, and that the child had slept well all night. Scarified the gums, and discharged the little patient as convalescing. I was told that the diarrhœa returned in about a week, but was promptly stopped by a resort to the syrup.

September 5. Called to see a female infant, 10 months old, that had been sick with cholera infantum about eight weeks. The little creature was emaciated, with profuse evacuations every few minutes, attended with nausea and vomiting. The tongue and mucous lining of the mouth were deep red, with intense thirst, and a burning heat of the skin. It had suffered long from tenesmus, and tormina, which were only relieved, as I was told, by injections of tinct. opii. Five or six teeth had already appeared, and more still coming. I prescribed bromide potassii at once, in one and a-quarter grain doses, with syr. aurantii, four times daily, alternated with four drops liq. iodidi ferri. Having been nursed from birth "upon a bottle," I di-

rected undiluted milk, without sugar, as the diet, and to offer it water every time before putting the milk to its mouth. In a few days could be seen a very decided improvement. The diarrhœa and vomiting ceased, and the child could sleep quietly. For the last month she has become quite full in the face, and a few days ago it was necessary to adopt measures to obviate a tendency to constipation.

September 28. Called to see a male infant, 8 months old, that had been sick a month with diarrhœa, and vomiting. It was emaciated, and retained nothing upon the stomach. Its former medical attendant had told the mother that her child must die, and appearances certainly justified such a prognosis. I gave bromide potassii, as in the other cases, with an effect equally apparent. Prescribed, also, iod. iron, brandy punch, and quinine. For the last fortnight has required no medicine, and is doing well.

Another case was that of a female infant, 13 months old. Had diarrhœa in June last, which was arrested by means of calomel and ipecac, followed with quinia. October 7th, it was again taken, with considerable violence, on cutting the first molar teeth. The bromide was given at once, and the disease was controlled. Nothing more was done but to scarify the gums.

In the foregoing cases, not only was the diarrhœa suspended, but there was decided relief to pain, and the little patients would sleep quietly, as though under the influence of opium. I have, also, in a few cases, prescribed the bromide for children who were wakeful and fretful at night, with decidedly good effects.

In one or two cases, I have prescribed the bromide, with fluid ext. valerian, where there were aggravating and seemingly useless pains at the commencement of labor, with good effects.

In one case of asthma, I gave the salt, but its use has not been followed up closely, as the patient is well-nigh cured since leaving the Western Reserve, without any medicine.

As a calmative and hypnotic, it has been used in excessive wakefulness and nervous irritability for some time, and I have frequently given it to adults to cause sleep.

Respecting its *modus operandi* I have but little to say, except that it seems most efficient in cases where *mucous* surfaces are affected, and consequently morbidly sensitive. It acted thus in disease of the mucous coat of the bladder, and the alimentary canal. If it relieves asthma, it will be more effective in that variety caused by the action of fog, and smoke, fumes of various kinds, ipecac, or hay, etc., than in cases of a reflex origin, or of those depending upon disease of the heart, or other thoracic organs.

ARTICLE IV.

REPEATING PRESCRIPTIONS—A REMEDY PROPOSED.

BY THEODORE GRIFFIN, M.D., Chicago.

The prescription repeating abuse has been sufficiently dwelt upon to render it, in all its phases, entirely familiar to every practitioner; so that it is unnecessary to prove the already well-proven fact, that the profession is annually swindled out of many a well-earned dollar, by a universal and persistent resort to this pernicious practice. Our grievances have been well presented, ably and thoroughly discussed, leaving, however, as far as I know, entirely unalluded to, the question of first importance, namely: How shall we remedy this abuse.

It is universally conceded that the patient is not the owner of the written paper prescription, which he conveys to the druggist by direction of the physician, that he may have a remedy for his disease prepared; that, therefore, he has no right to call upon the druggist for its repetition. The prescription is merely the medium of communication between the physician and the druggist who compounds the medicines, and may, when written, be placed in an envelope, sealed up, and addressed to the druggist. It is no more or less than a written communication for facilitating the transaction of business. The patient being merely the bearer of the communication, is not entitled to its use further than especially directed by the physician;

which facts preclude the right of the druggist to repeat it without the order of the physician.

The following proposition is presented for the consideration of physicians and druggists, which I believe will, if adopted and faithfully carried out, remedy, as far as can be, under the prescription system of practice, this evil, which deprives us often of a well-merited reward, that we should receive for treatment which is the fruit of years of study and experience, namely: *Let the physician require that the druggist who compounds medicines according to his written directions, return to his office such written directions as he may weekly receive, at the end of each week; numbering the bottles or packages of the patients, and the prescriptions, as he now does, for future reference, if desirable, by both himself and the physician.* The physician should then keep his prescriptions filed, and at all times ready for reference.

The above is the proposition, and my belief is strong that, if it be faithfully carried out on the part of physician and druggist, it will effectually put a stop to this abuse, and spoil the business of numbers of "specialists," who copy from time to time, and practice with the prescriptions of physicians, for certain diseases, which are found on file at our drug stores; elevate the physician in the estimation of his patient, make his advice more deserving of consideration and respect when received, by necessitating his repetition of it, if valuable, and not detract one *iota* from the income of our brethren of the pestle.

In order to secure unanimity of action, let resolutions embodying this idea—or some other one, for a similar purpose—be adopted by our city medical societies, and given to every druggist and physician in the city, with a request that they coöperate with the profession in the enforcement of the same.

The druggists, with whom it is essential that we sustain friendly relations, will, I believe, accept cordially any proposition, which is just to them, that will do away with this vexed question of repeating physicians' prescriptions.

Correspondence.

HIP DISLOCATIONS.—REPLY OF PROFESSOR BIGELOW TO PROFESSOR GUNN.

Mr. Editor:—In a pamphlet* which Professor Gunn has somewhat widely distributed in this vicinity, and which has been brought to my notice since I recently returned from abroad, he makes the following remarks:—

"Professor Bigelow does me great injustice in the manner in which he alludes to my writings; on this subject, he says:—

"'Professor Gunn maintains, in a paper upon this subject, that any untorn or undissected portion of the capsular ligament is capable of producing the signs of hip and shoulder luxations.'"

This is quoted from a part of my paper, intended to do justice to the theories of different writers, upon the questions of muscular and capsular resistance, in hip dislocation.

I trust that Professor Gunn, for whom I entertain great respect, will acquit me of any intentional act of injustice. The above statement was made upon a careful study of his pamphlet, which I first met with several years after my own theory was made public. In now reëxamining Professor Gunn's pamphlet, I see no reason for modifying the statement to which he objects; indeed, his views differ so widely from mine, in respect to the varieties, classification, pathology, and treatment of hip dislocation, and, in fact, as to everything, except the general region of the capsule, concerned in two of seven regular dislocations, that his pamphlet does not strictly require a reply.

Professor Gunn confines himself chiefly to the question of resistance to reduction, in two dislocations, namely, the dorsal and so-called "ischiatic." It may be observed, however, that

* Luxations of the Hip and Shoulder Joints, and the Agents which Oppose their Reduction. By Moses Gunn, A.M., M.D., Professor of the Principles and Practice of Surgery and Clinical Surgery, in Rush Medical College; formerly Professor of Civil and Military Surgery, in the University of Michigan. Second Edition. Chicago, 1869.

of the two dislocations alluded to, he fails to appreciate the character of what he, in common with previous writers, calls the "ischiatic" luxation, which, in the only case he cites (p. 13), was, as he says, primarily dorsal. If it was primarily dorsal, as alleged, Professor Gunn's remarks really refer, not to two luxations, but only to one, namely, the dorsal; because, as the tendon of the obturator internus must have been ruptured, to allow a change of place from the dorsum to the ischiatic notch, the luxation he calls "ischiatic" had no proper claim to be so designated, but was simply dorsal. But the present communication is addressed only to the question of "injustice" to Professor Gunn.

My paper † embraces a general treatise upon hip luxations, of which seven regular varieties are enumerated, four, at least, being new, and all owing their phenomena, as I believe, chiefly to a single portion of the capsule of the hip, namely, to the ilio-femoral or Y ligament (so called for brevity), in one or both of its branches.

Prof. Gunn, on the other hand, recognizing only the four luxations of previous writers, urges that, in a paper published in 1853, and subsequently incorporated with other papers in a pamphlet which he now republishes, he had already identified the *anterior and inferior portion* of the capsular ligament as a cause of resistance to reduction in the *dorsal* luxation, and in the (erroneously so called) *ischiatic* luxation. But he fails to add, that he similarily identifies, in the same pamphlet, *another and different part* of the capsule as the cause of the resistance, in *other* luxations.

Again, Professor Gunn states, that in the "dorsal" and so-called "ischiatic" luxations (after the posterior and upper half of the capsule is cut away), the *anterior and inferior half* of the capsule binds down the head of the bone, and opposes its reduction (p. 5).

† The Mechanism of Dislocation and Fracture of the Hip. With the Reduction of the Dislocations by the Flexion Method. By Henry J. Bigelow, M.D., Professor of Surgery and Clinical Surgery in the Medical School of Harvard University; Surgeon of the Mass. Gen. Hospital, etc. Philadelphia, 1869.

Professor Gunn here speaks only of two similar and allied luxations—probably only of one—and shows no knowledge of the existance of an ilio-femoral ligament. He also points out, as essential, the resistance of the inferior portion of the capsule, adjoining the obturator foramen, where it is actually thinest and least capable of resistance to reduction. Indeed, he defines very imperfectly even the "half" of the capsule to which he calls attention. In an account of an experiment in the winter of 1858–59, he says (p. 11), that "the upper and *posterior* half of the capsule was then cut away;" while in reference to other experiments, in 1868–9, he says (p. 18), that "the upper and *outer* portion of the capsular ligament" was removed, at the same time identifying this as "the dissection used in former experiments."

But I am nevertheless ready to concede that, within these narrow limits, namely, in designating loosely *an anterior capsular resistance in dorsal dislocation*, Professor Gunn is, in the main, correct and deserving of the credit it was my object to accord to him. He goes further, and, as I think, astray.

He directs that, "*in the forward dislocation upon the pubes*, while extension and counter-extension is being made in the usual manner" (*i.e.*, by the old method of longitudinal extension), "the limb should be rotated externally; this," he says, "relaxes *the posterior and untorn portion* of the ligament" (p. 20).

I think that Professor Gunn will not contend that this *posterior* portion of the capsular ligament, "untorn," as he says, in the pubic luxation, and, therefore, to be relaxed by a special position of the limb, is identical with the *anterior* portion, which he has repeatedly before pointed out as "untorn," in the dorsal luxation, and which is to be relaxed, as he states, by a wholly different position of the limb.

It is plain that *two different parts* of the capsule are here referred to by Professor Gunn; and as these two parts manifestly comprehend the whole, these passages alone are sufficient to show that there is no injustice in attributing to him, in the sentence he has quoted, the theory that "*any* untorn or un-

dissected portion of the capsular ligament is capable of producing the signs of hip and shoulder luxations."

But in thus refuting the specific charge of Professor Gunn, I have not spoken of the general drift of his whole pamphlet, the conclusions of which are summed up on its last page, and which still further substantiate my expressed conviction. His theory for both hip and shoulder is, that, when the bone passes to one side of the socket, it tears that side of the capsule, and leaves the rest sound, and that the essential resistance to reduction is due to this remaining sound side. This theory is, indeed, the key-note of Professor Gunn's paper, and upon it he basis his system of reduction. In the dorsal dislocation, for example, of which it almost exclusively treats, he considers that because the head of the bone is found upon the dorsum, it should be reduced through the dorsal laceration, and reiterates (pp. 13, 14, 16, 18, 20), even in italics, the necessity of *adducting* the limb across the other for this purpose. In his only reported case, he accomplishes this (in his own words, "*arte non vi*"), by a Jarvis' adjuster (p. 13). He says (p. 20), "We further lay down the following special rules:—In the luxation upon the dorsum ilii, the patient lying on his back, carry the limb across its fellow, at a point corresponding with the union of the middle with the upper third, rotate inwards, and the pelvis being fixed by an assistant, the head may now be readily drawn into its place;" that is, through the dorsal laceration of the capsule, no matter how inconsiderable this may be. According to my theory, dorsal dislocations are best reduced from below the socket, after the capsular orifice is enlarged, if it is constricted, with the thigh flexed at right angles, to relax the Y ligament, and, sometimes, even finally *abducted.*

"In all dislocations," says Professor Gunn, finally, "place the limb in just the position which characterized it at the moment of escape, and the reduction will then be easily effected" (p. 20); a direction which would prove, I think, sometimes impracticable and sometimes erroneous. Different positions for the different luxations, both of the hip and shoulder, are enumerated in "special" and "general" rules (pp. 19–20); clearly

indicating a belief, that in different luxations, *different parts of the capsule are torn*, and, as a consequence, that *different parts of the capsule remain*, at once essential to the phenomena, and requiring to be relaxed by wholly different positions, in order to reduce the limb.

My meaning would, perhaps, have been more exactly rendered by saying, "Professor Gunn maintains, in a paper upon this subject, that *different* (rather than *any*) untorn or undissected portions of the capsular ligament are the essential agents of resistance in the reduction of hip and shoulder luxations."

This doctrine is wholly opposed to my own, which recognizes the Y *ligament* as the chief obstacle to reduction, in seven regular dislocations, and directs flexion of the thigh to overcome its resistance.

But upon this point, Professor Gunn, after speaking of the "anterior and inferior portion," or, as he also characterizes it, "half," of the capsular ligament, and its relation to dorsal dislocation, says: "Surely this language includes the so-called Y ligament, unless its author finds also a new location for that structure;" thus claiming, by implication, a knowledge of the pathological functions of the Y ligament. Professor Gunn should remember, that although the greater may, in one sense, include the less, as a block of marble does a statute, yet that there is no sentence or word in his whole pamphlet which alludes to the existence of an ilio-femoral ligament in the capsule. Inasmuch as this ligament is one of the strongest in the body, "thicker than the ligament of the patella or of the tendo-Achillis," § and is only a part of the literally "undissected" (p. 19) half designated by Professor Gunn, as producing the phenomena of dorsal dislocation, it is difficult, in view of this silence, to understand how it could have been in his mind, at the time of writing his pamphlet, or why, in common with all other modern surgical writers and authorities, he should have wholly ignored it in this relation, till after my paper was published.

Since the above was written, my attention has been directed

§ Traité d'Ostéologie, etc., S. P. Soemmering and G. & E. Weber. Paris, 1843. Pp. 323–324.

to a notice in the *Chicago Medical Journal*, (October, 1869, p. 881), reiterating, under the term "unfairness," Professor Gunn's charge of "injustice." The writer says also: "So far as we are able to see, this author (Professor Bigelow) has added nothing to Professor Gunn's exposition on the subject, save only this new name of that portion of the capsular ligament—the anterior and inferior—heretofore known as the iliofemoral, but which he christens as the Y ligament."

This zealous defender of Professor Gunn obviously possesses one alleged qualification of an impartial critic: he has not read the paper he criticizes. His remarks require notice only so far as they relate to the charge of "unfairness," which, I think, needs no further comment.

HENRY J. BIGELOW.

Boston, *Nov. 24, 1869.*

SVAPNIA.

Prof. N. S. Davis, M.D.,

Dear Sir:—Will you excuse me with a few words of explation with regard to your Report on Drugs and Medicines, made to the Illinois State Medical Society in May last, which only a day or two since came under my observation?

In reference to the disadvantage of svapnia, you say: "*We see no reason why* each physician should not combine morphia, codeia, and narceia, in just such proportions as his patients may need, if there is any advantage to be derived from their combination."

Now, permit me, respectfully, to point out two pretty strong reasons why they cannot, or do not.

1st. In the first place, not one of the constituents of opium, excepting morphia and narcotine, are to be found in the market, and narcotine is well known to possess no anodyne or narcotic property whatever. If the physician cannot get the article how is he to make the combination, no matter how much his desire, or the urgency of his patient's case may be?

2d. I believe Messrs. Morson & Son, of London, and T. &

H. Smith, of Edinburgh, have separated narceia, codeia, niconine, and cryptopia, in purity, by which those who are fond of experiments may obtain them for those purposes, but they are precluded from common use in practice, by their extravagant cost. Dr. Hurley informs us that at present four or five tons have yielded only the same number of ounces of cryptopia. Narceia, I believe, has been sold here, when specially ordered, at 50 to 75 cents per grain. The other principals also in nearly the same proportion.

Dr. Hurley, in his excellent work on the "Old Vegetable Neurotics," discusses the question—which, however, was before decided affirmatively, in the every-day practice of physicians—are there many persons so peculiarly sensitive to nervous impressions that the exhibition of opium and morphia, in ordinary dose, unguarded by controlling medicines or influence, will be productive of distress and danger?

The result of his experiments upon the animal system reveals the fact that the same idiosyncrasy is found to exist in both the horse and the dog.

In his analysis of the effects of the different constituents of opium, he clearly defines the properties of each, and then comes to the conclusion that they are all members of the same family—all having characters in common, but differing greatly, only in degree, in having two opposite properties, to wit: 1st, excitant, which, in excess, runs on to convulsions, and tetanus; 2d, depressant, which, sufficiently intensified, merges in hypnosis, and all in excess end in profound narcotism and death.

Morphia and thebaina are the agents more marked than the other constituents, in the production of these opposite effects; morphia at the head of the class of hypnotis, and thebaina at the head of the tetanizing forces. The effects of either even in slight excess upon those peculiarly susceptible to their morbid influences are productive of distress, if not of danger to life. Hence it is well to have the system guarded from the deleterious effects that possibly may accrue; and Dr. Hurley, therefore says we must never give morphia by injection under the skin, without some protection from these effects, in persons with

whom we have reason to suspect such ill consequences may result? He recommends the use of atropia. Why? Not to fulfil any special indications in the combat of disease, but to guard against the deleterious effects of the morphia.

One of the peculiar effects of morphia is the derangement of the vagus, or pneumogastric nerve, producing violent retching, vomiting, and nausea. Another effect, probably in a great measure depending secondarily upon its effect upon this nerve, is that the whole respiratory function is depressed—these effects in the highly excitable nervous diathesis, or the peculiar antimorphine idiosyncrasy, are so magnified as to become dangerous. In crude opium and laudanum in these cases, we have the convulsive and tetanizing properties of thebaina and cryptopia to contend against, in which danger is produced from that source.

Svapnia fulfils more directly the indications sought for by Dr. Hurley, in the combination of atropia, and morphia, with, we think, much less danger and greater convenience. In it, the thebaina and cryptopia are entirely eliminated, and the depressant effect of the morphia upon the pneumogastric nerve, counteracted by its union with the less excitant properties of the natural constituents of opium, namely: niconine, codeia, and narceia. In this respect, svapnia must be considered a simple remedy, or pure opium, so eliminated of its poisonous constituents of thebaina, and cryptopia, as to render its exhibition, when its anodyne and hypnotic effects are needed, less dangerous, even, than when morphia is conjoined with atropia.

JOHN M. BIGELOW.

Detroit, Mich., December 3d, 1869.

Permanganate of Potassa.—A solution of permanganate of potassa will be found a valuable remedy in the treatment of disease of the antrum, in the proportion of 5 parts to 100 of water. We have recently applied this solution, in the form of an injection, in several cases of disease of this cavity; and in a short time after its use was commenced, the disagreeable odor was diminished and the good effects of the agent apparent. It is also valuable in ozaena and other affections similar in character.—*American Journal of Dental Science.*

Selections.

CLINICS.

HOSPITAL NOTES AND GLEANINGS.

Reports of Surgical Practice in London Hospitals.—We went to see the operations at University College Hospital, October 27th last, and were glad to find the list unusually attractive, including the ligature of the external iliac artery, by Mr. Erichsen, and four cases of lithotrity, by Sir Henry Thompson.

The first patient brought into the theatre was a cabman, aged 37, who had first noticed a large femoral aneurism in the right groin four weeks previously, and in whom Mr. Erichsen proceeded to tie the external iliac artery. Chloroform was administered by the Resident Medical Officer, with Clover's apparatus, which is now always used at this hospital. As soon as the man was fairly narcotized, Mr. Erichsen commenced, making the incision rather higher than usual, dividing the external oblique muscle without a director, but using this guard when making the deeper incisions. The peritoneum came distinctly into view, with the gut shining through it. No bleeding requiring interference occurred; the artery was speedily reached, and an ordinary stout whipcord ligature put round it. In the course of his subsequent explanatory remarks, Mr. Erichsen said, that the incision had been made higher than usual—so high, indeed, that he could have easily reached the common iliac vessel, had that been desired—in order to get as far above the aneurism as possible, since this extended above Poupart's ligament. He pointed out the various steps of the operation, and said, that he would have employed the carbolized catgut ligature, as used by Professor Lister, but that on trying some of it before coming into the theatre, he had not felt satisfied of its strength; and, as the thread must be placed at the bottom of a tolerably deep wound, he thought it, on the whole, safer to trust to the usual whipcord. He mentioned that there was another aneurism in the hospital, which might yet come before them in that place; but, at present, digital compression was being practised, the aneurism being in the popliteal space, and he considered it right to give both compression and flexion a fair trial, before subjecting the patient, a man aged only 23, to the risk of the graver alternative.

The next case was one of a large, firm nasal polypus, completely blocking the orifice of the right nostril of a woman. Mr. Erichsen slit up the nostril along its junction with the cheek, and cut through the root of the growth with scissors, and afterwards closing the wound with wire sutures and collodion. We carried away a portion of the polypus for microscopic examination, as it did not present the more usual gelatinous appearance of these growths. We found the bulk of it to consist of spindle cells, intermingled with which were some large cells, of the myeloid kind, so that the structure resembled rather that of an epulis, than of an ordinary nasal polypus; and it probably sprang from the periosteum, covering the nasal process of the superior maxilla.

Sir Henry Thompson's four cases of lithotrity now put in their appearance in quick succession, and we were amused with the regularity and uniformity attending the introduction of these patients. The old men came down one after another, each bearing his pillow, on which his buttocks were to be supported, and carrying in his hand a pill-box, containing the results of the former crushings. As each patient entered the theatre, he was greeted by the surgeon with the question: "How often have you been crushed? followed by "Have you your stone with you?" The contents of the pill-box were then displayed, the nature of the calculus being explained to the students, whilst the man climbed on to the table and adjusted his pillow. Then the lithotrite was introduced, the stone instantly caught and crushed two or three times, and the loaded instrument gently withdrawn, being quickly whipped out of the orifice; the only step in the process producing any demonstration on the part of the patient. The extracted fragments were then turned out on to a bit of blotting-paper and added to the pill-box collection, and the patient carried back to bed. Three of the stones were of uric acid, occurring in men aged 65, 57, and 65 respectively, and the fourth was of urate of soda, in a man aged 69, who had been crushed already three times. The others had been before operated upon once, twice, and thrice respectively. In one instance, where an enlarged prostate complicated matters somewhat, the man had suffered from slight febrile disturbance between the crushings.

The last case was one of disease of the os calcis, in which Mr. Erichsen, having cut down upon the bone by a T-shaped incision, gouged out the carious portion, and smoothed down the edges of the cavity with an osteotrite—a practice which, he stated, he invariably adopted when it could be done safely; as,

by this means, an exceedingly useful foot might be secured, the disease being prevented from extending to the joint.

Going round the surgical wards of St. Mary's Hospital, with Mr. Haynes Walton's class, one day last week, we were specially struck with the excellent results of the system of continued irrigation, as adopted by that surgeon. One good example of the beneficial effects of this plan of treatment we have lately recorded in these columns. At the time of our report, the man was making good progress towards recovery. He has since left the hospital, with a perfectly strong, albeit somewhat curved, leg. Our readers may remember that the case was one of severe compound and comminuted fracture of the tibia, in which a large bit of the bone was broken off, leaving only a thin plate of the posterior surface of the bone undetached, at the bottom of a large wound. Although this wound took on an actively sloughing character, and the patient's general health became seriously impaired, from the date of the commencement of tepid irrigation, not only was all, or nearly all, pain removed, but the reparative process made such good way that the whole of the new bone was formed with the discharge of only a thin scale, like a large thumb-nail.

There is, at this moment, in one of the male surgical wards, another good example of this treatment, in the form of a very large ulcer nearly surrounding a man's leg. The surface is now covered with bright, healthy granulations, and an inch of sound cicatrical skin surrounds the sore; but at the date of admission, the ulcer was very much larger, the surface exceedingly foul, and the edges spreading rapidly. The phagedæna was checked, and the healthy action set in immediately on the irrigation being applied.

We hope to present more of these cases to the notice of our readers at a future time.

The plan of putting up fractures of the thigh, suggested long since by Mr. Walton, and exclusively used by him in the wards, seems to produce such good results that we may mention here the chief points of the practice, although it has no longer any novelty to recommend it. The main defect in the ordinary long, or "Liston's," splint is, that extension being made from the tarsus, this part of the foot is apt to be elongated, and an inconvenient deformity is thereby induced. In order to prevent this, Mr. Walton directs, that instead of the usual two equal notches in the bottom of the splint, the upper notch (in the position of the applied splint) shall be only one inch long, the lower one being from seven to eight inches. The splint

should be long enough to reach well up into the axilla, from an inch below the sole of the foot, and carefully padded. The foot and lower third of the leg are then thickly padded with cotton-wool, so as to prevent any possible pressure on heel, external malleolus, or tendo-Achillis. The splint is now to be applied to the outer side of the limb, and a turn of bandage passed round the metatarsus and through the shorter notch, so as to fix the foot quite squarely in position. The bandage is then carried up over the ankle, and a turn or two round the leg, above the malleoli and through the larger notch, fixes the splint firmly to the leg, after which the bandage may be taken in the usual manner up to the knee. The perineal band is next adjusted, and counter-extension made, the splint being further fastened by a broad bandage passed round the pelvis, between the great trochanter and the crest of the ilium, and the head of the splint kept in a comfortable position by a bandage round the chest, which may be altered by the patient to suit his own comfort. The thigh has thus no bandage covering it, although the whole apparatus is so firmly fixed that the patient may be readily rolled over on to his sound side, without disturbing the limb. The perineal band may be removed by the end of a week, the muscles being then quite quiet. During the period of confinement to bed, the heel is never allowed to rest for long together in one position, pillows being shifted daily under the leg, so as to prevent any chance of the formation of that most tedious sore to cure, which results from a slough on the heel.

We saw a curious case, also under the care of Mr. Haynes Walton, of a man, aged 35, who, three years and a-half before, had sustained a severe fall, in which he had lost one of his front teeth—the right upper latteral incisor. A few weeks later, after much pain and swelling in the upper jaw, an abscess formed, and discharged through a small opening in the cheek, as well as through the alveolus of the lost tooth. The case was supposed to be one of caries of the maxilla, and many naval surgeons treated the man under this belief, but without alleviating the symptoms. When he came under Mr. Walton's care, there was considerable swelling of the side of the face, much pain, and constant profuse discharge from a sinus in the right cheek, half an inch outside the nostril. The discharge from the alveolus had stopped, and the bottom healed over. On probing the sinus in the cheek, Mr. Walton was convinced that he detected the smooth, hard surface of tooth enamel, and he accordingly enlarged the opening and extracted, with forceps,

a perfect incisor tooth, lying loose in the antrum. When we saw the man, eleven days after the operation, the wound was all but healed, and the pain and swelling quite disappeared.—*Medical Times and Gazette*, November 6th, 1869.

Excision of Head of Femur, with Great Trochanter, for Hip-joint Disease; subsequent Perforation of the Floor of the Acetabulum, from Extensive Caries; Death.—A point of great interest in the following case, which was treated in the "Dreadnought" Hospital Ship, is the information it affords regarding the influence of resection of the hip, on the progress of carious disease in the acetabulum. It has been recently suggested that caries of the floor of this cavity need not be considered as a contra-indication of the operation, or even as a likely cause of its failure, since the removal of the diseased head of the femur from its socket and a large external wound would favor the elimination of the carious bone, by natural means, and ultimate cure. The clinical history of Mr. Rook's patient, however, proves the necessity of hesitation and great caution in applying these views in practice. At the time of the operation, the chief seat of the disease was the upper end of the femur, including the neck and the two trochanters; this was detached by the saw and removed, exposing the floor of the acetabulum, which, though stripped of its articular cartilage, was composed of hard and apparently sound bone, and presented but slight traces of active disease. The case, at first, promised favorably, but, at the end of the fourth week the progress towards recovery was arrested, and profuse suppuration, acute pain in the hip, and, finally, symptoms indicative of intra-pelvic effusion, resulted in the death of the patient, fourteen weeks after the excision. At the autopsy, the upper extremity of the femur was found capped with organized lymph and in a very satisfactory condition. The acetabulum, on the other hand, was extensively affected, its floor perforated in several places, and the surrounding bone converted into an uneven, soft and carious mass—the result of disease, the activity and speed of which had increased to a very great extent after the removal of the head of the femur.

Joseph F., aged 18 years, a thin and excitable lad, was admitted into the Seamen's Hospital, on October 21st, 1868.

Previous History.—Commenced a seafaring life as a cook on board a coasting vessel, in the spring of 1864. Had very good health up to the month of November, of the same year, when, after prolonged exposure to wet and cold, he complained of

general uneasiness, and subsequently of stiffness and severe pain in the right hip. The local symptoms increased in severity, and, in spite of treatment and rest for nine months, in the Swansea Infirmary, rendered the lad perfectly helpless. He was then sent to London, and resided with a relation up to the time of his admission into the "Dreadnought." When first seen by Mr. Rooke, the patient presented well-marked symptoms of morbus coxarius. There was no abscess. He was kept at perfect rest in bed, and treated by the administration of tonics and the occasional application of the actual cautery. At the end of the year, he had recovered so far, that he was allowed to get up. The joint, at this time, was free from pain. A heavy fall in the ward, in February, 1869, was followed by acute pain in the hip, painful muscular spasms, and severe general reaction. Abscesses formed rapidly at the upper part of the thigh, from which there was a profuse discharge of thick, greenish pus, which could not be arrested. In consequence of the increasing debility and emaciation of the lad, and symptoms of hectic, excision was decided upon, and performed on May 21st.

Operation.—A long, straight incision was made from above, downwards, over the great trochanter. After a considerable thickness of soft and infiltrated tissue had been cut through, the upper portion of the femur was exposed. The head of the bone was found to be firmly fixed in the cotyloid cavity. By forcibly adducting and flexing the limb, the end of the femur was thrust through the wound. The head was denuded of cartilage, flattened, and irregular in shape; the neck and great trochanter were also much diseased. The saw was applied, at first, just below the great trochanter; but as the cancellated tissue was found diseased at the level of this section, another slice of the femur was removed. The acetabulum was quite bare of cartilage, but the form and depth of the cavity were but slightly altered. A gouge was applied to the exposed bone, forming the floor and margins of the cavity; but, as this was firm and vascular, only a small portion was removed. The edges of the incision were brought together by sutures, and the limb fixed by the usual long splint.

For the first three weeks after the operation the patient did well. The emaciation persisted, but the hectic ceased; the appetite returned, and the general condition was much improved. The wound, though extensive, became rapidly filled up by granulations. A great tendency to shortening and adduction was counteracted by abducting the limb and keeping it extended by weights.

At the end of June, there was an unfavorable change. The upper part of the right thigh began to swell and to become œdematous, and there was an increase in the amount of discharge. His rest and mental condition were much disturbed by severe pains, which radiated from the seat of operation, along the front of the thigh and leg to the foot. These were relieved only by repeated injections of morphia under the skin. From the 24th of June the patient became gradually worse. Extreme general emaciation was marked in the lower limbs, especially in the left leg and foot, by extensive anasarca. The purulent discharge from the right thigh persisted, and the œdema and severe pain over the iliac region indicated deep-seated suppuration in the pelvis. At the end of August, the patient passed suddenly into a state of unconsciousness, from which he but partially recovered; and, after occasional delirium, he died on the evening of September 5th.

Post Mortem Examination.—Lower limbs and scrotum very anasarcous. In front of right femur two large abscesses leading up to the seat of operation; back part of thigh traversed from gluteal region to popliteal space by a third purulent sac. Upper extremity of right femur closely embraced by fibrous and muscular tissues; the surface left by the saw covered a thick layer of tough, organized lymph. Acetabulum occupied by upper part of femur; osseous tissue around the cavity much diseased; and the floor perforated by three orifices, two of which communicated with intra-pelvic abscesses, the third with a large collection of pus in the right iliac fossa. The portions of innominate bone, beyond the carious and blackened tissue, surrounding the cotyloid cavity, are quite sound. Both lungs occupied by very numerous nodules of miliary tubercle. Right kidney lardaceous; the left affected with extensive scrofulous disease. Liver pale; weight 2¾ lbs.—*Lancet*, Oct. 9th, 1869.

Death by Hemorrhage from Cerebral Tumors (under the care of Dr. Hughlings Jackson).—The modes of death from cerebral tumors are very various. One patient suffers from the tumor slowly, one nervous symptom following another; another dies of what is called brain fever; a third is suddenly killed by hemorrhage from the tumor. Again, some patients die without any symptoms referable to the head, and a tumor is found *post mortem*. Death by hemorrhage deserves careful recognition. If we have a good history, these cases give us little trouble in diagnosis.

A boy, aged nine, was under Dr. Hughlings Jackson's care,

at the London Hospital, for paralysis of the third nerve, on one side, and hemiplegia on the other. These symptoms had come on slowly, with headache; and there was a double optic neuritis. He died during the night of effusion of blood, from a tumor of the crus cerebri, which caused the paralytic symptoms. The palsy of the third nerve on one side, and of the arm and leg on the other, pointed to disease of the crus cerebri. The gradual onset of the paralysis, and its complication with double optic neuritis, made it certain that the disease was of some *coarse* kind. The age of the patient rendered it most probable that this coarse disease was tumor. His sudden death led to the inference of hemorrhage from tumor.

The following case might easily have given trouble in diagnosis, had not the patient's previous history been known. A man, 23 years of age, under the care of Dr. Ramskill, had convulsive attacks; he suffered intense pain in his head, and there was double optic neuritis. It was almost certain, from these symptoms, that there was intracranial tumor. He was doing very well, being about the ward. He had a good appetite, and was able to read, when one night he was seized with a convulsion, became very deeply comatose, and died in two or three hours. Dr. Sutton found at the autopsy a gliomatous tumor of the fore part of the left anterior cerebral lobe, with recent effusion of blood to the extent of several ounces.

Had this man been brought to the hospital under like circumstances to those of the patient whose case is next related, the diagnosis would have been impossible, unless, perhaps, the ophthalmoscope had been used. If we find optic neuritis in a young, healthily-built patient, who has become comatose after a convulsion, we should, Dr. Hughlings Jackson thinks, be warranted in diagnosing tumor, but we could not say there was hemorrhage from that tumor. It is well-known that patients, the subjects of organic disease of many kinds, probably of any kind affecting one cerebral hemisphere, are liable to coma, after attacks of simpler convulsions, *i.e.*, convulsive attacks, without any effusion of blood.

But if the patient with optic neuritis were *very deeply* comatose, especially if he were so after but one sudden convulsion; if the fit was not known to have begun by a deliberate "aura," in the face, arm, or leg, and especially if the patient had had fits so beginning before; if there were no discoverable hemiplegia, we should fear hemorrhage from a tumor, and we should believe the patient would die. But we have not always such helps. The diagnosis is not always ready made. In the

following case, the patient was not young, there was no known convulsion, and there was no changes in the optic disks, and the history Mr. Leach supplied was not obtained until after the autopsy. It is needless to say that the diagnosis of hemorrhage, from cerebral tumor, was, in this case, impossible. It has no less value on that account.

A man, 56 years of age, was discharged on July 1st, from the "Dreadnaught," for a simple infraction of the rules. The only symptom the man then had was pain in the head. He was brought, on July 10th, in a comatose state, to the London hospital. He died there that night, at 1.30 P.M. All the police knew was that the poor fellow had been picked up in the street the day before, and taken to his lodgings, when he was supposed to be tipsy. As he did not get up next morning, he was looked after at midday. At the autopsy, a vascular tumor was found in the posterior lobe of the left hemisphere, close upon the middle cornu, and in the descending cornu. In the lateral ventricle was an effusion of blood to the extent of several ounces, which had presumably come from the tumor, as no part of the brain was broken up, except the wall of the middle cornu, near the tumor.—*The Lancet*, Oct. 23, 1869.—*Medical News.*

SCARIFICATION OF THE GUMS IN DENTITION.

At a meeting of the "Edinburgh Obstetrical Society," Dr. Cairns gave the following views on this subject, which we present in full to our readers, as they appear in the *Edinburgh Medical Journal:*—

I. Is scarification in dentition productive of any beneficial result? If it is so, in what do its good effects consist? The advantages alleged to accrue from the operation, as contained in the several works which I have consulted, may all be summed up in the following:—first, the relief of local pain; and, second, the prevention and arrestment of convulsions, laryngismus, stridulus, diarrhœa, etc., etc.

1. Scarification, according to its supporters, relieves local pain. Conceding meanwhile that this assertion is true, let us inquire into the grounds on which the assertion rests. Now, it certainly cannot rest on the declaration of the little patients on whom the operation is performed, because they have not yet acquired the power of speech—a circumstance, indeed, which renders the treatment of the diseases of children, in general, of

a very difficult and unsatisfactory nature, preventing them, as it does, from correctly indicating either the precise seat of their sufferings, or the actual effects of the remedies employed. Well, if the allegation is not, and cannot be, founded on the ground I have mentioned, it must, in these circumstances, be altogether and entirely of an inferential character. Now, the value of inferences is purely determined by the character of the data from which they are drawn. If the data are true, the inferences may be valid, or they may not; but if the data are not true, the inferences must, as a matter of course, be utterly worthless. In the present case, then, what are the data from which it is inferred that scarification is productive of relief from pain? These data will, I think, be found on inquiry to consist in the tense, tumid, and congested condition of the gums. The matter stands thus: the gums, in the process of dentition, being in a tense, swollen, and inflamed state, are painful; and by relieving the tension, tumidity, and congestion, by means of incisions, you thereby relieve the pain. This, I opine, is a correct and fair statement of the case. Well, now, I demur entirely to the alleged fact, that in the *ordinary* process of dentition, the gums are either tense or swollen. It is quite true that there exists over the site of the approaching tooth an evident fulness; but this condition is caused, in all ordinary cases, by the presence of the tooth itself. The tissue overlying the tooth is not put into a state of strain by the tooth, as the term tensity would lead one to suppose. No such thing—against such tension nature makes full and ample provision, by causing the subjacent gum to undergo gradual absorption, in proportion to the growth of the tooth itself. The tooth is not *pushed* up, it *grows* up; and as *it* increases in growth, so do the overlying tissues become absorbed, thereby rendering tension impossible. Neither is there swelling, in the ordinary sense of that term, because nature guards effectually against the infiltration of serum, by causing the growth of the tooth to be sufficiently slow, so as to give the vessels concerned abundant time to accommodate their calibre to the circumstances by which they are surrounded; and if a true swelling does, in any case, actually form, that is to be regarded simply as an accidental occurrence, and to be treated, of course, as it would be in ordinary circumstances, but it is in no wise essentially connected with the process under consideration. If, therefore, there is neither tension nor tumefaction, scarification is useless as a means of relieving pain, so far as regards the alleged disturbing influences of these two conditions. But what of inflam-

mation? Simply this, that by abstracting blood from an inflamed part, you do not in the least degree either reduce or modify the inflammation. The part continues to be as red, as hot, and as painful as before. Nor do I hold it of much consequence to be told that the child has become more quiet after the operation, and must, therefore, have obtained relief by its means; because unless its advocates are prepared to prove the result to be unvariable—which they are not—I am fully entitled, in the circumstances, to assume, that such relief may have followed in spite of the operation; just as many patients have been found to recover from certain diseases, in spite of the very questionable treatment to which they may have been subjected.

2. Scarification is alleged to prevent and arrest convulsions, etc.

Now, as a prophylactic remedy, the operation can only be admissible under certain conditions:—1st. On the ascertained fact that convulsions are an invariable accompaniment of dentition. 2d. That the operation uniformly, or at least generally, prevents their occurrence. The question therefore is, do these conditions hold? I affirm they do not, and on the following grounds: because convulsions, so far from always coëxisting with the process of dentition, do so in reality in a very small proportion of cases. They constitute, in fact, not the rule, but the exception. And, further, the object sought has in general not been attained; that is to say, convulsions have just as frequently followed as they have preceded incisions of the gums. So much for the preventive; and as regards the alleged curative agency of scarification, several questions naturally suggest themselves:—

(1.) Does it necessarily follow that dentition is the real exciting cause of the convulsions, merely because the latter happen to be concurrent with the former? Every one, I daresay—even the most zealous advocate of the operation—would unhesitatingly answer in the negative, when the question is put in this pointed and directed manner; nevertheless, I am rather inclined to think, that there exists in the minds of most practitioners a strong disposition to attribute every case of convulsions which occurs, in a child within two years old, to the so-called cutting of a tooth, and to that alone, unless other causes are so manifest as can hardly escape notice. Nor is the reason of this far to seek; for, in the first place, it is universally admitted by every member of the profession, that dentition may, and does occasionally, induce convulsions; in the second

place, there exists a strong tendency in the human mind to connect certain effects with their most commonly received causes, whether true or false, and this circumstance has always operated in a very special manner in the minds of medical men.

(2.) A second question which suggests itself is, has a recurrence of the convulsive fits, which happen to take place during dentition, always been prevented by scarification? An affirmative answer to this question would justly be held quite conclusive, at least as regards the particular circumstances referred to; but, unfortunately, I have not been able to find any one, within the compass of the research I have made, who ventures to give the desiderated answer. On the contrary—unlike those who dogmatically proclaim, as an infallible remedy for this and that disease, this and that specific, which no other than themselves has ever been able to verify—even the most strenuous supporters of scarification allege nothing more than simply that after the operation has been performed, the convulsions have ceased to recur only now and again.

(3.) And this brings us to a third question, *viz.:* whether, in those cases in which the convulsions have ceased, after the application of the lancet to the gums, the use of this instrument is to be regarded as the real procuring cause of their arrestment? Now, I do not by any means venture to say that it is not. This were too audacious by a great deal; but I do say, and without the least hesitation, that there exist more abundant data from which to give an answer in the negative, than there do from which to give one in the affiumative. What, we ask, are the grounds on which the scarificator is employed? Because, say its advocates, after being applied, convulsions occasionally do not occur. And that is really the only answer which can be given. Very good—but when they are again asked, if they can affirm with certainty, that the use of the lancet has been the actual and sole means of stopping the convulsions, they feel obliged to be somewhat more cautious in the answer which they give. Their reply then is, it may be, or it may not be—we cannot absolutely say which. Well, in these circumstances, we must be excused from expressing our humble opinion that the greater probability is, that it has not been so; first, because the use of the lancet has just as frequently been followed by the *recurrence* of the convulsions as by their *discontinuance;* second, because their non-recurrence may have been a *mere matter of coincidence, and nothing more.* It is well known, for example, that in different children, convulsions differ, both as regards their number and duration. In one

child there is often only one convulsive attack, sometimes of short, and sometimes of considerably long duration; in another, we often find two, the one either following the other in close succession, or at a longer interval. Sometimes we find three, and so on; but when they are dependent on dentition, or other local irritation, they always prove of a self-limiting character.

Suppose, now, that in either of these cases you incise the gums, and that, after doing so, the convulsive attacks cease to return, are you entitled to give the credit to the lancet? If you say yes, I maintain that in the circumstances I am equally entitled to say no; because, in all probability, the convulsions had entirely ceased before the gums had even been touched by the lancet.

The same arguments which have been employed in the case of convulsions apply equally to the other diseases, which I have mentioned as concurring with dentition, and, therefore, I may pass them over without further notice; merely adding, that although diarrhœa is, perhaps, one of the most common comitants of dentition, it seems somewhat strange that scarification should be so seldom practised, or even recommended for arresting that most debilitating of all the ailments to which infants are liable.

II. Having considered the beneficial, I now proceed to notice, in the second place, the prejudicial effects of scarification.

1. And here I allege, in the first place, that it is injurious, because it impedes the process of dentition. During the last few days, I have asked several professional brethren with whom I have come in contact, who approve of the operation in question, for what reason they do so? and the gist of the answer which I have received from each has been this: "Because," say they, "the lancet does at one stroke what nature would require a considerable time to accomplish, to let the tooth through." And this quite accords with what we find in some of the books. Now, we aver the opposite. We aver that the use of the lancet, instead of rendering dentition more easy, makes it in reality more difficult. And here we must observe, that in scarifying the gum, three different modes have been recommended:—1st, by making a single incision; 2d, by making a crucial incision; and, 3d, by making an elliptical incision, and removing that portion of the gum which overlies the tooth. Well, if either of the first two methods is adopted, in nine cases out of ten, you have speedy reunion of the lips of the wound, thereby leaving matters exactly as they were before. If, as

recommended by some, you go on repeating the incisions, you have just the same result following; thus rendering it extremely difficult for us, at least, to perceive how the approach of the tooth can be facilitated in the least degree by these means; while, at the same time, the hard cicatrix which has been formed must require longer time to become absorbed, as the tooth approaches, than the soft natural tissue of the gum. If the wound heals by ulceration—and by this process it must do so, when the third method is employed—you do certainly obviate thereby the absorption of the gum, and thus seem to assist nature. But this, after all, is more apparent than real; because absorption is undergone not only in that portion of the gum which lies over the summit of the tooth, but also in the portions towards its sides—portions, be it observed, which are left altogether untouched. But even although these portions were also removed, the truth of our averment would, in our opinion, be only strengthened thereby; and in this way, because you would thus expose a greater portion of the tooth to atmospheric influence; premature exposure to which, by the removal of its natural covering, would give a material check to its growth and development. Consider, also, that by the operation, simple though it seem, you give a greater or less shock to the nervous system of the infant; and it is universally admitted that an infant, at this period, is in a state of high susceptibility, that you excite more or less inflammation, thereby increasing the suffering and irritability of the little patient; that you cause the loss of a certain quantity of blood, of which a child is highly intolerent, and particularly those children on whom the operation is performed, being generally of delicate and strumous habits; that you aggravate the painful condition of the gums, thereby rendering sucking a difficult operation, and preventing the infant from obtaining a proper supply of nourishment. Consider, we say, these circumstances and the injurious effects which they must necessarily produce on the general constitution, and through it on the growth of the teeth, rendering that process, as they must do, unusually tedious and slow.

2. We allege, in the second place, that it may lead to fatal hemorrhage. We are not in a position to state how often this result has followed from the operation; but if all the cases which have occurred had been recorded, and were collected, they might be found to amount to no inconsiderable number. At all events, it is well known that such cases have occurred, and, indeed, it is only very recently that a case of this nature was reported to this Society, by one of its members. To this,

however, it may be objected: 1st. That in those cases in which the child has died from loss of blood, the incision may have been made too deep: our reply is that the incision is recommended to be made deep, so deep as to reach the tooth. 2d. It may be objected, that fatal cases may only have occurred in those children which happened to have the hemorrhage diathesis: we answer, that even although this were granted, you cannot discover whither this diathesis is present or not, until you make the incision, when the discovery is too late. 3d. It may also be objected, that the risk alluded to occurs so seldom that it need not act as a deterrent: to this we reply that the untoward results under consideration having happened even once or twice, renders it at least possible that it may also occur in the very case in which you are about to operate; and, moreover, should it do so, and should you tell the parents, on inquiry, that you were aware that such an event might possibly occur, I rather fear that the parents would not hold you altogether blameless in the matter, and that they would bear you a secret grudge ever after.

3. I allege that it tends to perpetuate a custom which, to say the least of it, is of a doubtful character. Probably one of the reasons why the operation is so generally performed is, not in reality from the good effects which are expected to ensue from it, but because it is usually done in such circumstances. Others do it, and, in order not to appear singular or culpable, I must conform to the general practice, whether the issue should prove favorable or the reverse. In this way did the treatment by blistered, bleeding, and violent drugging become transmitted from generation to generation, age after age, producing, as it is now universally allowed to have done, the most direful results. And in the same way has been handed down the operation in question, which, though uncertain and doubtful in its results, continues to be in high favor and general use as a time-honored custom. On this point, however, we do not enlarge, but proceed, as was proposed, to inquire.

III. If, in the circumstances, scarification is justifiable? We allege that it is not. 1. Because it inflicts unnecessary pain. The objection, observe, is not grounded on the fact that pain simply is caused to the child. Such an objection were absurd; because, although the medical practitioner holds it to be one of his prime function to relieve pain, in many cases he can only fulfil that function by employing remedies which are themselves of a pain-giving nature. But this is not the question. The question is, am I warranted in employing a remedy which, so far as

can be ascertained, does not relieve the pain which it is intended to do, and which remedy is itself painful, both in its application and results? I maintain that, in these circumstances, I am not justified in doing so, and particularly when I remember the effects which scarification on one occasion produced in my own person. For it so happens, that when, some years ago, my last wisdom-tooth was making its appearance, the late Professor Miller, at my own urgent request, applied the lancet over it, but the result was, that instead of experiencing relief from the operation, it kept me, on the contrary, in a state of the most extreme suffering for days to come; the remedy, in short, having proved a thousand times worse than the disease.

2. It superinduces some of those very conditions which it professes to remedy. I allude in particular to tension, tumefaction, and inflammation, the relief of which it will be remembered, was alleged as a reason why scarification should be performed. On that occasion, I simply endeavored to show, that the treatment recommended had no rational grounds on which to rest; I now go a step further, and aver that scarification actually produces these results. Inflammation it must and cannot but excite; because, in virtue of a well-known physiological law, wherever you occasion a breach in living tissue, more or less inflammation results, in order to repair the breach which has been made. Again, in an inflamed part, there is always more or less swelling, owing to the pressure upon the veins, which causes the exudation of serum into the surrounding cellular tissue. And, lastly, there is tension; because whether the scarified part heals by the first or second intention, there is, in either case, contraction of the tissue, and consequent tension, if an unyielding structure like the tooth lies underneath.

I shall not be so bold as to affirm that scarification actually excites convulsions; but considering the extreme sensitiveness of the gums and the highly nervous condition of the child, in some cases of teething, I do think that that operation is abundantly sufficient to act as an exciting cause of them. And it is certainly a fact, that there are some parents who will not allow the gums of their infants to be incised on any account, because in the case of former children, they have observed the operation to be followed by convulsions; and parents are very acute and often very correct observers, in reference to the ailments of their children—a fact which renders their testimony in such matters of no inconsiderable value.

3. At the best, it is a mere experiment. This, I think, cannot be denied, with whatever view the operation may be per-

formed, whether to relieve pain, or whether to arrest convulsions, or any of the other symptoms which have been mentioned as coincident with dentition. If you perform the operation to relieve pain, you do so simply as an experiment; because, in the first place, you do not know if the pain from which the child appears to suffer is due to the state of the gums at all; it may depend on causes totally different. In the second place, granting that the gums *are* the prime source of the irritation, how do you know that the *part* of the gum which you incise is the real seat of the pain? You perceive a certain portion of the gum to be somewhat prominent, and find, at the same time, that the child gives certain expressions of suffering, and you thereupon immediately leap to the conclusion that the pain is occasioned by that particular part of the gum. Are you *certain* that it is so? You are not; you cannot be. The *greater* probability is, that the irritation is entirely due to the growth of *a* tooth, which, owing to the early period of its development, gives no indication whatever of its appearance. In the third place, even although you could hit exactly upon the precise tooth which caused the pain, how do you know whether it is the *superficial* or radical part of the tooth which gives rise to the pain? Whoever has suffered from toothache must know that the pain in *many* cases arises from the *root* of the tooth, and and not from the crown, showing that the former is just as likely to be the seat of pain as the latter; and, consequently, that in scarification, the object sought will most probably prove altogether abortive, and, therefore, out-and-out experimental.

And as regards convulsions, etc., scarification of the gums is a thousand times more doubtful in its results than as regards the relief of pain. Who can deny on how many occult causes such phenomena may actually depend? But simply because a child happens "to be getting its teeth" while a convulsive fit occurs, the convulsion is at once attributed to the state of the gums. The gums are forthwith lanced, and if the convulsions cease, the lancet gets the credit; if they do not cease, *as in general they do not*, the lancet nevertheless is extolled as having done all that could have been done to avert bad consequences. But now, allowing scarification to be nothing more than an experiment, is it or is it not justifiable? To this I reply, that it is only justifiable on certain grounds. An experiment is not justifiable, 1st, when there is no essential connection between the disease and the alleged cause, for the removal of which the experiment is made; 2d, when it has repeatedly failed to produce the desired result; 3d, when it is likely to be more injuri-

ous than beneficial. These points, however, I simply state, without enlarging upon them, having greatly exceeded the limits to which I had restricted myself.—*American Journal of Dental Science.*

Book Notices.

A Treatise on Intraocular Tumors, from Original Clinical Observations and Anatomical Investigations. (With one Chromo-Lithographic and fifteen Lithographic Plates. By H. Knapp, M.D., late Professor of Ophthalmology and Surgeon to the Ophthalmic Hospital, in Heidelberg. Translated by S. Cole, M.D., of Chicago. New York: W. Wood & Co., 61 Walker St. 1869.

We have received a copy of this work from the translator. It is an elegantly publiseed volume of over 300 pages. The paper, type, and illustrations are all good. The subjects of which it treats are not of very frequent occurrence, generally obscure in their origin, and, consequently, of difficult diagnosis. The work will be of special interest to the ophthalmologist and of use to the general practitioner.

The Pathology of Bright's Disease. By Wm. B. Lewis, M.D., Lecturer on Renal Pathology, in the Medical Department of the University of the City of New York; Microscopist of Charity Hospital, etc. With illustrations. New York: Turner & Migmed. 1869.

This is an interesting pamphlet of 29 pages, containing a brief history of renal pathology, and a clear statement of the present status of medical opinions, in relation to Bright's disease.

Minutes of the First Annual Meeting of the Nebraska State Medical Society, held in Nebraska City, June 1st and 2d, 1869.

This is a pamphlet of 24 pages, containing the record of pro-

ceedings of the annual meeting, embracing brief reports on Surgery, by Drs. S. D. Mercer and N. B. Larsh, and on Obstetrics, by Dr. James H. Peabody, and the constitution and bye-laws of the Society. The proceedings indicate a good degree of enterprise and talent in the profession of this new State. The officers for the present year are, *President*, James H. Peabody; *First Vice-President*, N. B. Larsh; *Second Vice-President*, F. Renner; *Corresponding Secretary*, J. C. Denise; *Permanent Secretary*, S. D. Mercer; *Treasurer*, D. W. Hershey.

Archives de Physiologie, Normale et Pathologique. Published by Brown-Séquard, Charcot, and Vulpian, of Paris, France.

This very valuable periodical for November and December is before us, filled with its usual variety of interesting articles.

Editorial.

A New-Year and a New Volume.—The present number commences the 11th volume of the Examiner, and with it we wish all our readers a "Happy New Year" and abundant success in their daily work of alleviating human suffering, and of prolonging human life. If the contents of this journal, as it visits them from month to month, shall afford them any aid in their noble work, one of the leading objects of its publication will have been attained.

We shall not follow the example of some of our cotemporaries and boast of past success, or make extravagant promises for the future. The Examiner is neither the organ of a school nor the advertising medium of a publishing or bookselling house, but is simply the individual property of its Editor, and is published solely for the promotion of the educational, scientific, and practical interests of the profession. We shall make it as useful to our readers as we possibly can, being fully satisfied with the liberal patronage it has hitherto received.

Medical College Education.—In another place will be found a notice from the Committee appointed by the Medical College Convention, of 1866, calling for a convention of delegates, from all the regular medical colleges in the United States, in the City of Washington, on Friday preceeding the next regular meeting of the American Medical Association. The same notice has been sent to all the medical journals in the country, and we hope those controlling the medical press will lend their aid in bringing together so full a representation from the colleges, that whatever measures are agreed upon, can be successfully carried into practical operation. We know of no candid and enlightened medical teacher who does not acknowledge that there are very important defects in the present system of medical college instruction in this country. This much, indeed, seems to be universally acknowledged by the profession. The time appointed for the Convention will allow of three working days before the assembling of the American Medical Association, which is none too long for a fair consideration of the several important questions that will require consideration. Let us not only have a full convention, but let the delegates come together in a spirit of liberality and with a positive desire to make such changes in the prevalent system of medical college instruction as the interests, the honor, and the usefulness of the profession require, and there will be no difficulty in bringing about important practical results.

Diploma Venders.—We have been kindly furnished with two or three of the following cards, by friends in different parts of the country:—

"The Milwaukee Medical and Surgical Institute (chartered by the Legislature of Wisconsin), office, corner of East Water and Mason Streets. Collegiate agency.

"This agency has been established for the purpose of giving such information as is necessary before taking any of the learned degrees in arts, science, law, and medicine, and represents some of the best universities in America and Europe.

"By or through its recommendation, the degrees of A.M.

(Master of Arts), A.B. (Bachelor of Arts), L.L.D. (Doctor of Laws), M.D. (Doctor of Medicine), D.D.S. (Doctor of Dental Surgery), etc., may be legitimately conferred.

"For particulars address the Principal, T. Williams, M.D., Milwaukee, Wis.

"Many States have passed laws prohibiting physicians, who are not graduates, from practising medicine, collecting fees, or giving evidence in Court on medical matters. All the other States will soon pass similar laws. Similar qualifications are required of surgeons of the U. S. Army. In view of the agitation of this question, and the facts that no physician without a diploma can be recognized as a *bona fide* member of the profession, and that it is a passport to good fellowship with his professional brethren and the confidence of the community, every practising physician should be able to produce this badge of his profession."

Will some of our medical friends in Milwaukee give us reliable information in regard to this matter? Is there any such chartered institution in Milwaukee? Is there any such individual as T. Williams, M.D.? If so, who and what kind of man is he? Let this imposition be fully investigated and exposed.

FOREIGN ITEMS.

Gazette, September 25th.—The annual report of Dr. Aubert Roche, on the sanitary and medical condition of the works and establishments of the Isthmus of Suez, states, that the population of the isthmus, which, in 1859, consisted of 180 persons—25 Europeans and 155 natives—numbered last year 34,258 individuals—16,010 Europeans and 18,248 natives—and that it is at present actually estimated at 42,400, or 22,843 Europeans and 19,559 natives.

The mortality, except in cholera years, has maintained an average of 1 in 100, while in France the rate is 2.40 per 100.

In closing this report, the Dr. says: "During the ten years of our service here, the public health has been constantly im-

proving, the diseases and the mortality have diminished. But at what a painful price have we arrived at this result!

"This year, again, four of our physicians have succumbed, three on the field of battle, and the fourth, Dr. Pappatheodoro, after eight years of service has died in his own country. Of the eleven physicians who were the first participants in our enterprise, there does not remain more than five. The sanitary service has lost more than half of its effective force in chiefs of service."

Gazette, September 25th.—By the last mail from India, we learn that some cases of cholera have occurred at Madras. The epidemic seems to have been imparted to travellers coming from the district of Bellary. The sanitary and municipal authorities of Madras are exerting the most energetic measures to prevent the spread of the disease.

Gazette, September 30th.—The mortality report, for Paris, for the week ending September 25th, gives deaths from variola 15, scarlatina 5, rubeola 4, typhoid fever 32, typhus 0, erysipelas 6, bronchitis 24, pneumonia 37, diarrhœa 28, dyssentery 6, cholera 9, angina catarralis 4, croup 1, puerperal affections 3, other causes 646—total 820.

The report, for London, for the week ending September 18th, gives deaths from variola 6, scarlatina 178, rubeola 21, typhoid fever 33, typhus 6, erysipelas 4, bronchitis 63, pneumonia 45, diarrhœa 139, dyssentery 2, cholera 5, angina catarralis 13, puerperal affections 10, other causes 874—total 1400.

MEDICAL COLLEGE CONVENTION.

To the Trustees and Faculties of the Medical Colleges in the United States:

The undersigned Committee, in accordance with the instructions of the Convention of Delegates from Medical Colleges, held in Cincinnati, in May 1866, respectfully and earnestly invite you to send delegates to a convention, to be held in the City of Washington, on *Friday* preceding the *first* Tuesday in May, 1870, for the purpose of considering all subjects con-

nected with Medical college education, and procuring the coöperation of the Schools in carrying out a uniform system of instruction. It is very desirable that every regular medical college in this country should be represented in the Convention.

Chicago, Ill., *Dec. 22, 1869.*

N. S. DAVIS,
S. D. GROSS,
GEO. C. BLACKMAN,
F. DONALDSON,
} *Committee.*

Four Prizes.—The Editors of the *American Journal of Obstetrics and Diseases of Women and Children* offer the following prizes for the best essays on the subjoined subjects:—

1. Fifty dollars (in gold) for the best essay on "Catarrh of the Uterus, its Etiology and Treatment."
2. One hundred dollars (in gold) for the best essay on "The Morbid Anatomy of the Placenta."
3. Fifty dollars (in gold) for the best essay on "Electricity in the Treatment of the Diseases of Infants and Children."
4. One hundred dollars (in gold) for the best easay on "Congenital Deformities and Diseases Depending on Maladies of the Uterus or Membranes."—*Buffalo Med. and Surg. Journal.*

Modern Homœopathy.—From the *London Monthly Homœopathic Review* for June, 1868, we learn that Lord Ebury gave vent to a feeling of regret that the report of the London Homœopathic Hospital did not contain evidence of a greater development of the objects of the institution. The number of patients was not very large, and the clinical lectures had been given up, "owing to the attendance being so scanty as greatly to discourage the lecturers." In the London Homœopathic Hospital, in which the cases are not of so serious a character as one is accustomed to see under treatment in hospital, black wash is applied to syphilitic sores, and $\frac{1}{2}$-grain doses of mercury given internally. Cases of glandular enlargement in the neck were treated with tincture of iodine painted on externally. For cases of continued sleeplessness 1.48 of a grain of acetate of morphia was given every fifteen minutes. The Hospital physicians repudiated, one and all, the fallacies and absurdities of Hahnemann about infinitesimal doses and dilutions.—*N. Y. Medical Record.*

Mortality for the Month of November, 1869:—

Accident, concussion of brain	1	Delirium tremens	3	Lungs, congestion of	4
" drowned	3	Diabetis melitis	1	Measles	1
" by fall	1	Diarrhœa	3	Manslaughter	1
" fall of iron column	1	" chronic	2	Metro-peritonitis	1
" in plaining mill	1	Diphtheria	13	Meningitis	4
" injury, spine	1	Dropsy	2	" cerebro-spinal,	1
" fracture, "	1	Dysentery	5	" tubercular	6
" railroad	3	" chronic	1	Metritis	3
" scalded	3	Encephalitis	2	Old age	14
" smothered in bed	1	Endo-pericarditis	1	Œsophagus, canker of	1
" shot, revolver	1	Entero-colitis	1	Œdema pulmonum	1
Abscess, perineal	1	Enteritis	5	Paralysis	5
Arosophagus, stricture	1	" and convulsions	1	Pericarditis	1
Apoplexy	4	Exposure	1	" and rheumatism	1
Ascitis and anasarca	1	Erysipelas	2	Peritonitis	4
Asthma	3	Face, cancer of	1	" metritis	1
Births, premature	12	Fever, congestive	1	" stricture of intestines	1
" still	51	" intermittent	1	" puerperal	3
" tedious	1	" puerperal	4	Phrenitis	1
Bowels obstruction	1	" remittent	2	Pneumonia	29
Brain congestion	2	" scarlet	64	" typhoid	3
" " delirium tremens	1	" " bronchitis	1	" pleurisy	1
" disease of	3	" " diphtheria	1	Rheumatism	1
" inflammation of	5	" " dropsy	1	" inflammatory	1
" " typhoid fever	1	" " nephritis	1	Scrofula	2
" softening of	1	" typhoid	29	Suicide poisoning	2
Bronchitis	3	Gangrene and anasarca	1	Shooting	1
" and dropsy	1	Gastritis	3	Syphilis, hereditary	3
" chronic	3	Hæmatemesis	1	Tabes mesenterica,	9
Carbuncle on back of head	1	Heart, disease of	8	Teething	7
Cerebritis	1	" neuralgia of	1	" and bronchitis	1
Cholera infantum	2	" organic disease of	1	" encephalitis	1
Convulsions	40	" valvular disease	2	" pneumonia	1
Consumption	48	" fatty degeneration of	1	Tetanus from wound to foot	1
" pneumonia	1	Hydrocephalus	6	Thrush	1
Coxitis and pyæmia	1	" acute	2	Trismus	1
Croup	14	Inanition	7	Urethra, rupture of, extravasation of urine, result of	1
" diphtheretic	1	" and miscarriage	1	Vitality deficient	1
" membranous	3	Intemperance	2	Whooping-cough	5
Cyanosis	2	Jaundice	1	Unknown	3
Debility	5	Kidneys, disease of	1	Total	489
		Laryngitis	1		
		Lead-poisoning	1		
		Liver, congestion of	2		
		" obscure disease	1		
		" fatty degenerat'n	1		

AGES.

Under 1	119	20 to 30	48	70 to 80	9
1 to 3	81	30 to 40	40	80 to 90	4
3 to 5	28	40 to 50	38	90 to 100	3
5 to 10	40	50 to 60	26		
10 to 20	23	60 to 70	30	Total,	489

Males,	287	Females,	202	Total,	489
Single,	355	Married	134	Total,	489
White,	481	Colored,	8	Total,	489

COMPARISON.

Deaths in Nov., 1869,	489	Deaths in Nov., 1868,	402
Increase,	87		
Deaths in Oct., 1869,	601	Decrease,	112

NATIVITY.

Bohemia,	3	England,	10	Sweden,	9
Canada,	7	France,	3	Scotland,	2
Chicago, Native,	73	Germany,	60	Unknown,	8
Chicago, Foreign,	146	Ireland,	71		
U. S., other parts,	88	Norway,	6	Total,	489
Denmark,	2	Prince Ed'd's Island	1		

MORTALITY BY WARDS FOR THE MONTH.

Wards.	Mortality.	Pop. in 1868.	One death in
1	6	9,094	1515¾
2	23	13,074	568½
3	26	15,076	579 4-5
4	20	17,796	889¾
5	37	16,033	433⅓
6	24	13,083	545
7	46	25,492	554⅙
8	35	15,813	451 4-5
9	29	19,297	665½
10	13	12,925	994¼
11	21	14,340	683
12	56	17,485	312¼
13	18	11,164	620¼
14	26	14,839	570 4-5
15	30	21,078	702½
16	20	15,465	773¼

Mortality.	
Accidents,	17
County Hospital,	12
Home for Friendless,	1
Immigrants,	3
Manslaughter,	1
Mercy Hospital,	8
Protestant Orphan Asylum,	6
St. Joseph Orphan Asylum,	3
St. Luke's Hospital,	1
Hospital Alexian Brothers,	1
Madison Street Police Station,	2
Twenty-Second St. " "	1
Suicide,	3
Total,	489

On the Medicinal Use of Phosphorus and its Compounds.—We take the following extracts from an article, with the above caption, by John C. Thorowgood, M.D., published in the *Practitioner*, for July, 1869:—

"Since the discovery and isolation of the element phosphorus by Brandt, of Hamburgh, in 1669, it has become the practice with physicians, in this and other countries, occasionally to prescribe this substance, as a remedy in cases where some special stimulant to the nervous centres has seemed to be required. Thus we find that phosphorus has been administered in cases attended with great prostration of the vital powers, as in the latter stages of typhus fever, also in such chronic diseases of the nervous system as epilepsy, paralysis, melancholia, amaurosis, etc., occurring in debilitated subjects; and there is good evidence to show that in many of these nervous affections, the effect of phosphorus, properly administered, has been beneficial. * *

"The well-known fact that in cases where an unusual degree of wear and tear of the nervous system is being sustained, it is common to find an excess of phosphatic matter excreted in the

urine, while the individual becomes increasingly weak, nervous, and irritable, appears to show that exhaustion of nervous force is in some way connected with a rapid oxidation and excretion of phosphorus from the system.

"Considering these points, we can see that there is reason in seeking to administer phosphorus, as an internal medicine, where we have reason to suspect that the nutrition of nervous matter may be failing, from a loss of its right proportion of this very essential ingredient.

"We give phosphorus for its restorative action over weak nerves, just as we give iron to nourish and restore blood that is weak and poor from lack of this constituent. * *

"For medicinal use, there are solutions of phosphorus in ether and also in almond oil. * *

"Another and very useful preparation of phosphorus is a pill, made by melting finely-divided phosphorus with fat and then covering the pill with an impermeable coating.

"Pills that I have seen and used, made by Messrs. Savory & Moore, contain 1-40th of a grain of phosphorus in each pill. Both Dr. Radcliffe and Dr. Althaus speak favorably of the good effect of phosphorus, given thus in very small doses, as a valuable tonic in many chronic nervous maladies. * *

"M. Tavignot, in France, has been in the habit of using phosphorus in the form of a pill, containing 1-70th of a grain, as a remedy in nervous, chlorotic, and strumous affections. In some neurotic and paralytic affections of the muscles of the eye-ball and of the lachrymal nerve, M. Tavignot has used liniments and phosphorated oil with advantage; and, dropped into the eye, this oil is asserted, after some months' use, to have a solvent action on cataract. * *

"As a gradual tonic and restorer of failing nerve force, I prefer the hypophosphite of soda, or of lime, to the potash salt; and either of these salts appears to me to answer all the purposes of pure phosphorus, as an internal remedy, while, at the same time, they are more manageable and agreeable medicines. In cases of nervous depression and torpor, with at times shooting neuralgic pains, or, in other cases, numbness and deadness of the limbs, as from feeble circulation, the hypophosphites prove useful, and the lime or soda salt can be given according to the way in which the stomach may seem to bear the one better than the other. When anæmia is present, the citrate of iron can be added to the hypophosphite of soda, or else the syrup of the hypophosphite of iron, or of iron with quinine, can be employed; and either of these syrups will prove an active

tonic, removing neuralgic pains, chest oppression, and languor of circulation in a very evident way." * * —*Boston Med. and Surg. Journal.—St. Louis Medical Archives.*

Treatment of Epilepsy.—Dr. Brown-Séquard states (*Half-Yearly Abstract*) that his usual prescription for epilepsy is as follows:—

Iodide of potassium, one drachm; bromide of potassium, one ounce; bromide of ammonium, two drachms and a-half; bicarbonate of potash, two scruples; infusion of calumba, six fluid ounces. Mix. A teaspoonful of the mixture to be taken before each of the three meals, and three teaspoonfuls at bedtime, with a little water.

In syphilitic cases he increases the amount of iodide of potassium. In administering the bromides it is necessary to give a relatively larger dose at bedtime and smaller doses in the day, if sleepiness is caused. The medicine should be pushed till anæsthesia of the fauces is produced, and an acne, like eruption, appears on the face, neck, and shoulders, etc. The bromides should be continued for fifteen of sixteen months after the attacks have ceased. An occasional purgative ought to be given, and if any debility be produced by the use of the bromides, wine and nourishing food should be used, with cod-liver oil, arsenic, strychnia, etc., and the cold douche or shower-bath employed.—*St. Louis Med. Archives.*

The efforts to establish a library for the American Medical Association, at Washington, we are happy to say, are successful; and the profession are requested to bear in mind that all works deposited there are in excellent keeping, and that the movement will be of great service in the establishing of the medical literature of America.—*Buffalo Med. and Surg. Jour.*

Dr. J. A. Ross reports, in the *Lancet*, a case of death in the Staffordshire Infirmary, from the administration of 20 drops of chloroform. The patient was a miner, 50 years of age, upon whom an operation was to be performed. The chloroform was pure, and was given by means of a cone lint. The pulse stopped suddenly, and the most persevering use of all appliances for restoring animation proved unavailing. The autopsy showed the heart to be rather large and flabby, but otherwise free from disease. The other organs were normal.—*Buffalo Med. and Surg. Journal.*

Effects of Copper on the System.—In a paper read before the Clinical Society of London, Dr. Clapton gave some interesting information concerning the effects of copper upon the system of workers in that metal. The presence of "distinctly marked green stains on the teeth, close to the gums, bluish-green perspiration, hair of a greenish hue, in old workmen, and green discharge from old ulcers," were described and exemplified by the presentation of patients and specimens. These phenomena were shown to be probably the results of absorption, assimilation, and elimination of the metal. It is a singular fact that workers in copper not only are free from any specific poisoning beyond a tendency to muscular debility, but that they escape cholera and choleraic diarrhœa, even in localities where those diseases are epidemic.—*N. Y. Medical Gazette.*

Excessive Opium Eating.—Dr. A. T. Schertzer, of Baltimore, Md., relates the case of a lady, 28 years of age, who had consumed in two years, *five thousand eight hundred and forty ounces* of laudanum, and spent *eleven hundred and sixty dollars* in purchasing it. Without pretending to hold her attending physician to an unjust responsibility, the question naturally occurs, as to whether or not this heroic consumption and lavish expenditure might not have been prevented by the employment of judicious means, in the first instance? Medical men should always bear in mind that this dangerous habit is easily acquired, and should guard, as far as possible, against it.

"While attached to the Medical Corps of the Navy," says Dr. S., "I have frequently met with natives of the East Indies who consumed opium with a voracity equal to that of the lady in question, but have never known a similar instance in this country."—*Medical and Surgical Reporter.*

A Rare Chance for a Good Physician.

I WISH to dispose of my House and Lot, in the Village of Shopiere, together with the ***best County ride*** in the State of Wisconsin. Said Lot is conveniently and pleasantly located, and has on it a good House and Barn, a splendid Well, Cistern, and *all* kinds of Fruit.

For particulars and reasons for wishing to sell, address—

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THE

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N. S. DAVIS, M.D., Editor.

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Original Contributions.

ARTICLE V.

THE MENTAL AND THE PHYSICAL.

By F. C. MARSH., M.D., Mount Pleasant, Iowa.

He who fearlessly thinks, independent of the influence of received opinion, and presents those thoughts to his fellow-men, undisguised and ungarbled, dares much; for prejudice is a tidal, which nothing save the firm shores of established truth can turn back; and to change the flow of thoughts from accustomed channels is like making a new bed for a great stream, whose waters have coursed along the broad old way for centuries.

Yet men are allowed a certain latitude in which to theorize, nay dream day dreams, and repeat them to their fellow-men. Sometimes these waking visions savor of truth. How know we in metaphysics, which are the dreams and which the realities? Surely it were hard to tell!

The peculiar relation existing between the physical and the mental, and the bearing of the one upon the other, has been the subject of theory and investigation, since man began to think of himself. We gather nothing wholly satisfactory from the multiplicity of theories and speculations of the metaphysical works, thus far produced; simply arbitrarily drawn divisions of mind, into the external and internal, and these again into subdivisions. All the differences we find in the peculiarities of men are attri-

buted to their different mentalities; while nothing is said of their physical organisms, and the bearing which these must have on all mental manifestations.

I hold it as a truth, almost self-evident to every investigating man, that every thought, every emotion, every conception, has its origin in some suggestion from without, which comes to the mind through the media of the physical. If this be true, how much of the almost infinite difference we find in men can be satisfactorily explained, by carefully studying the minute structure of these compound beings.

Differences in color, size, expression, and form of the eyes of the several persons we meet, is a fact patent; yet we never realize that these variances modify the impressions received by them and transmitted to the brain, through the media of nerves as variable as the external appearances of the organs receiving those impressions: the arrangement of nerve fibre and the quality of that fibre must be elements influencing the chain of transmitted impressions.

The influence of the different modifications of the lens, upon transmitted rays of light, is a fact too familiar to demand mention; yet in these eyes we have all the modifications of the lens, in all degrees of perfection; but who of us give our fellowmen, who cannot perceive the beautiful as readily as we, credit for possessing as much capacity for such perception, and only only faulty in the possession of an imperfect instrument, through which to behold God's art gallery? Is mind (a scintellation from Infinite perfection) at fault for not appreciating that which is never brought within the range of its observation? Again, we hear sounds, and these sounds, when properly combined, become harmonious and musical: all do not have the same impressions conveyed to the mind of these sounds; one catches all the minuteness of change and delicacy of tone of the ceaseless motion around, while another only hears the collective rush of the combined motion—and why? Simply, there is in the one a delicate tympanum, and the chain of bones, conveyers of sound from the tympanum to the internal ear, are morbid, and the internal ear is delicately formed, and, beyond this, the arrange-

ment of nerve fibre is that most propitious for the transmission of impressions; while, in the other, one or more of these conditions, essential to the full appreciation and perception of melody, is wanting. Mind has no part in this, for mind has had no opportunity to receive, in the second case, what mind did in the first. Touch, another media, through which mind receives impressions from the without, is dependant upon (in a great measure) the thinness of the epidermis, or outer skin, which covers in the papillæ, or essential element of touch. If this epidermis be thick and horny, as in the hand of the laborer at manual toil, of necessity the impressions of texture and peculiarities of substances, as received through this media, must be less correct and definite, than those brought to the cognizance of the mind, by the delicately-fingered lady's organism.

Taste and smell are subject to the same laws.

We speak of the expression of countenance as being an index of the mental characteristics of the possessor, and assume that these characteristics are the moulders of that expression. This is true, just in the measure we admit that these peculiarities of mental manifestations are the result, directly, of the peculiar physical organism with which that mind is associated; for feature and expression are the title-pages of our physical beings, and only thus, indirectly, of our mentality; for all the mind's pabulum comes through this physical, and all its evolutions are made manifest again through the same channel, and receives its impress in this transmission. But, independent of this subserviency, mind is broader, deeper, and mightier than can be realized, so long as it wears the fetters of the physical, and has no index whatever as to its real peculiarities in that physical.

As the brain is the headquarters of the vast telegraphic company of impressions, and as each nerve has a peculiar class of impressions to transmit, and as these nerves severally, in pairs (the cranial nerves, I mean), are from different and distinct parts of the brain (thus proving that each portion of that brain has a peculiar office), and as brains are variable in size, shape, and texture, are we not justifiable in concluding, that from this

peculiarity of organism, comes much of that which we term individuality? Can we expect men to be alike in apparent power of intellect, when the windows through which those intellects gather visions of the beauty, grandeur, and extent of the vast creation are so variable in size and character? Can we expect them to draw the same conclusions from things so differently seen? A slight pressure on some portion of a nerve, conveying an impression, would materially affect that impression, either to enhance or diminish it; and how often slight impairments in the regularity of the circulation, which may increase or diminish pressure, on a nerve contiguous to a vessel, occurs. And the flow of blood materially influences the action of the brain, increased in quantity and rapidity to a certain extent, and exhilaration and stimulation of brain action are the results; still further increased, and oppression obtains. Hence it is, that good talkers are men who need the stimulus of an audience to quicken their life-current, in order to the highest brain-action. While good writers need no such stimulus, and when under such excitement have brain-action oppressed, by an overflow of blood to that organ. The sluggish, indolent, man, whose pulse beats slow, and whose breath comes in long drawn gusts, when angered, to-morrow, may become quick in thought, and the volley of invective and sarcasm which flows from him will astonish all. Great danger may make him a miracle of invention, daring, and heroism. And these excitants quicken pulse and breath. There are no two individuals physically alike—face and form give personality to each—and there is almost as much dissimilarity in their anatomical structure. Changes in distribution of nerves and arteries are ever met with in the dissecting-room; the same general type of course is followed, but minutiæ is ever variable. Susceptibility to pain varies vastly in different individuals; and this variance is but an example of the degrees of facility of transmission of impressions, in these parties. Mind is not the controller of this, nor, indeed, is it at all responsible for it, but it is simply dependent on the organism of the neural system.

Our surroundings, as to temperature, purity of atmosphere,

character of food, and necessities for action, are influences of mental manifestations. Under the debilitating influence of a high temperature, how difficult it is to induce brain or muscular action, such as would be almost involuntary in the lower temperatures, unless these be so severe as to overpower us. Who can think in an atmosphere of carbonic acid gas? and the ill-fed being has no higher aim than the attainment of that which will satiate his ever-knawing hunger.

If there had been no necessity for action—if food, water, and clothing had been supplied to the "*genus homo*," as to plants, what discoveries, what inventions, what language, would then have been? Verily (I believe), none! And, yet, can we say that mind is amenable to temperature, that it is affected by carbonic acid, that it becomes hungry, and needs clothing? And if it be not amenable to these influences, why make it responsible for all those imperfections which are simply the results of an imperfected physical mechanism. Steam is the same power, whether applied to the engine of perfect construction or to one of improper structure, though the manifestations of that power are vastly different. Mind is, I believe, a constant quantity, a spiritual essence, given to all rational beings, in the same measure; and, as I have tried to prove, in the past pages, influenced, so far as its manifestations are concerned, by its entire dependence on the physical, for all intimations of the created universe; and by these more or less perfect impressions, individualized and limited in capability.

With these views of human life before us, dare we critise our fellow-men, condemning their opinions as false and them as dishonest, for entertaining such views? Shall we speak slightingly of who is inappreciative of music, art, and the beauty of nature and has no conception of the grandeur of the world around him? Dare we make light of the poor, "half-witted" being, whose greatest fault is, that that organism, through which mind is made manifest, is signally imperfect, so that no food, no sunlight, no warmth, comes to the imprisoned spirit there; and it hibernates through the long winter of its confinement here, returning to the God who gave it, an infant, yet to develop into the man-

hood of soul-growth, after is liberation from the trammels that now starve it? With this belief, will we not find charity more easily exercised, God's goodness more discernible, and be better content with life and our fellow-men? With education, all our physical being becomes more nearly perfect, and, of necessity, our mental manifestations keep pace with the character of culture we give our physical. Sight, hearing, touch, taste, and smell will be the avenues through which beauty or deformity will be perceived by our immortal part; and as we exercise these in the direction of the beautiful in nature, and in thought, so will our mental manifestations partake of the beautiful and good.

ARTICLE VI.

REPORT ON VEGETABLE PARASITES.

PRESENTED TO THE ILLINOIS STATE MICROSCOPICAL SOCIETY, JAN. 14, 1870.

By N. S. DAVIS, M.D., Chairman Committee.

[Published by Request of the Society.]

Parasites are living organizations that attach themselves to, and derive their nourishment from, some other organic body. In one sense, vegetable parasites are such vegetations as attach to, and derive their nourishment from, other vegetable growths. In another sense, they embrace all parasitic growths of vegetable organization, whether attaching to other bodies of vegetable or of animal nature; and it is in this sense that we will use the term vegetable parasite, in this report.

We may divide the whole into two groups or classes. The first embraces such as are found attached to living vegetables only. The second, such as may spring up on either vegetable or animal matter, whether living or dead, under certain combinations of heat, moisture, and light. The first of these classes may be conveniently divided into two orders, namely: the green parasites, or such as have leaves or organs of respiration,

through which they imbibe a part of their nourishment from the atmosphere; and the brown, which have no leaves or respiratory organs, but derive all their nourishment from the roots of the vegetables to which they are attached. They originate under the surface of the ground and shun the light. The first of these orders are described chiefly under the names of *Viscum* and *Loranthus*, while the second are represented by the *Orabanche* and the *Latharie*.

The second class are termed *Fungi* and *Entophyta;* or, in more familiar language, as mushrooms, mould, mildew, smut, rust, blight, etc. They belong to the class *Cryptogamia* of Linneus, and are distinguished from some of the other orders of that class, chiefly by their deriving their nourishment solely from the organic matter to which they are attached.

They are very numerous, Berkely having given about 600 *genera* and 4000 species, to which other investigators have added many more since.

To the unassisted eye, few things appear more dissimilar than the large fungous excressences on forest trees, and the *mucedo*, or filiment of mould; yet, under the microscope, all the varieties of fungi appear to possess a similar organization. They consist primarily of simple cells or spores, united in the form of lines. These may exist separately in the form of extremely delicate filaments, as the *mucor*, or common mould, or they may be aggregrated in large masses of considerable density, as in the well-known *boleti*, on the forest trees. Any detailed account of these primary formations, or attempt at classification, would be more tedious than profitable to this Society. For our present purpose, we may divide the whole of what we have denominated the second class into two groups. The first embraces such as are found growing on vegetable products, either living or dead, and constitute the Fungi proper; the second embraces such as are found attached to animal structures, more especially such as are covered with epithelial cells, like the skin and mucous membranes, these have been termed *Entophyta*.

Many of those embraced in the first group are of great impor-

tance to the agriculturist and fruit grower, because they are found to attack, and greatly injure, in different seasons, almost every variety of grain, fruit-bearing vegetables, and trees. The rust, smut, and mildew of wheat, rye, and corn, and the blight of the plum, cherry, and pear trees are familiar examples, and are worthy of the most patient and careful study.

Many of the orders and species embraced in the second group, attaching themselves to man and animals, and found connected with various diseased conditions, have more particularly attracted the attention of members of the profession to which I belong. For many years it has been claimed by some of the more eminent men in the medical profession, that some of the most common and important diseases that afflict man, both endemic and epidemic, are produced by vegetable parasites, belonging either to the class *algæ* or *fungi.* Nearly 30 years since, Dr. J. K. Mitchell, then Professor of Practical Medicine, in the Jefferson Medical College, in Philadelphia, published a small work, embodying facts and observations strongly calculated to induce the conviction that our well-known intermittent and remittent fevers were produced by a species of microscopic fungi, developed on decaying vegetable matter, under the influence of heat and moisture. In 1855, M. Robin, of Paris, published his work called "Natural History of the Parasitic Vegetables, which Grow on Man and Living Animals." In this work the author enumerates ten species that attack the skin, and twelve the mucous membranes. As most of these are mere varieties, other writers have reduced those attacking the skin to three, namely: the *Tricophyton*, *Microsporon* and *Achorion Schœnlenii.* They present the most simple form of vegetable organization, consisting of mere spores, with occasional additions of *Mycelium.* They have been found in the different varieties of *Favus* or *Porrigo*, one variety of *Pityriasis*, *Mentagra*, and some forms of *Herpes* and *Eczema.* Thus far they have been found a constant accompaniment of such diseases only, as attack the hair bulbs, and follicles of the skin. Whether these parasites are the specific cause of the cutaneous diseases in connection with which they are found, or only

accompaniments, is not fully determined. Most of the French and German investigators advocate the affirmative, while others, especially in England and this country, claim the negative. Erasmus Wilson, for instance, contends that the so-called parasites are properly degenerated products of epithelial and other cell formations, and are consequences instead of causes of the cutaneous diseases. Notwithstanding the recent investigations of Koebner, Pick, and others, we think the view taken by Wilson is more nearly in accordance with all the facts.

Of the twelve varieties of vegetable parasites enumerated by Robin as attacking the mucous membrane, six are varieties of *Leptonitus*, one of *Torula*, one of *Mérismopœdia*, one *Oscillaria*, and one *Oidium*. To these may be added the *Cholera Fungus*, of Brittan and Budd, and the *Palmellæ* or Malaria Fungus of Saulsbury.

Although the varieties of parasitic growths mentioned by Robin have been observed on all parts of the mucous membranes of the digestive and urinary organs, only the *oidium* has been identified as uniformly connected with particular diseases.

This latter constitutes a large part of the white curdy exudation on the mucous membrane of the mouth, in thrush or miguet, and in diphtheria. The branch of our subject which has attracted most attention during the last few years, is that relating to the dependence of epidemic cholera on a parasitic growth, belonging to the order *Torulæ* or *Oidium*.

Brittan, Budd, Hillier, and others claim to have established the fact that the characteristic cholera evacuations by vomiting and purging, contain large numbers of vegetable spores, capable of rapid reproduction or multiplication. As seen in the recent rice-water discharges, they appear like the simplest form of *Sporule* or *Torula*, but by cultivation they are found to develope into the form of *Oidiæ*. It has been claimed and extensively credited, that these minute organizations were the active cause of cholera, and that the disease was actively propagated in communities, and from one place to another, by the cholera dejections containing these spores. During the last cholera epidemic in this city, 1866, we undertook a series of

microscopic examinations, for the purpose of satisfying ourselves concerning a subject of so much importance.

We procured, in clean vials, samples of the pure rice-water discharges, of several patients in the active stage of cholera. Some of these were examined with a high magnifying power, within one hour after they were voided, and the examination was repeated daily, for five or six days. Pencil sketches were made of several of the views presented. In all the earlier examinations, numerous minute, round, or oval bodies appeared in the field of the microscope, resembling the primary sporules of the *Torula*, but none united together in linear form. After standing, however, from two to four days, these were, in a few instances, apparently united in the form of *Oidium;* and in one that was examined, after standing six days, there appeared two specimens resembling the penicillium.

[The speaker here drew an illustration on the blackboard, showing the field of the microscope.]

In addition to these vegetable parasites, all the specimens examined by me presented large numbers of *vibriones*, and two specimens of animalcule, differing from any that I had seen before. So far, the results of my microscopic investigations only corroborated the results of similar examinations made by others. But the question then came up in my mind, whether these parasitic formations were peculiar to the discharges of epidemic cholera, or were also to be found in any serous evacuation from the alimentary canal, such as occur in ordinary cholera morbus, cholera infantum, and serous diarrhœa. To determine this question, since the cholera epidemic has disappeared, we have from time to time procured and examined samples of the discharges in the last named diseases; and in no instance have we failed to find more or less of minute spores or bodies, which appear to me identical with those found in the discharges of the patients laboring under epidemic cholera. We are, therefore, by no means prepared to consider the origin and propagation of epidemic cholera as settled.

The subject requires much more extended investigation before we can draw reliable conclusions.

It has long been known that any organic substance containing *proteine*, even in small quantity, in a moist state, exposed to a temperature of 70 to 80 degrees, with access to oxygen, presents, in a few days, products which under a good magnifying power have all the characteristics of vegetable spores.

If further observations should confirm the fact, that the fungous bodies described by Brittan, Hillier, and others, were present in the serous discharges from the alimentary canal, in other diseases beside epidemic cholera, it would not only disprove the theory that the last-named disease was produced by such fungi, but it would go far to establish the position that they were the products of morbid secretions, instead of the cause. It is a fact worthy of note, that up to the present time, vegetable parasites have been found only in connection with diseases of such structures as are covered with epethelial cells, like the skin and mucous membrane, or on suppurative surfaces, where the organic cells are undergoing more or less degeneration. This legitimately suggests the question whether all these parasitic forms of matter are not the results of what Erasmus Wilson has styled *phytiform*—degeneration of cells and granules of animal matter? But aside from all such questions of a histological character, the study of parasitic growths in connection with the prevalence of diseases, especially of an epidemic character, is of the highest importance in its bearing on sanitary regulations and the health of communities. In this direction, some things of great importance may be considered as already settled. Whatever may be the differences of opinion among observers, in relation to the nature and mode of development of these simple parasitic bodies, found in connection with epidemic and some endemic diseases, all agree that their production and rapid multiplication are directly dependent on the coëxistence of three things, *viz.:* organic matter capable of undergoing degeneration or decay, moisture, and a temperature generally above 60 degress F. If, with these, we have coincidently the exclusion of sunlight, we have the conditions most favorable for all vegetable parasitic formations. If the coöperation of these causes will generate a cholera fungus in the Valley of the

Ganges, we see no reason why they will not do the same in the Valley of the Mississippi, or in Chicago. But whether the cholera fungus is generated here or imported from the other hemisphere, it is certain that without the coöperation of the three first-named conditions, neither it or any other fungus can be propagated, to the injury of individual or public health. Hence, whatever contributes to the prompt removal, from this or any other city, of the decomposable organic mattter, the surplus water or moisture, and gives to all its inhabitants air and sunlight, contribute directly to the preservation of public health.

ARTICLE VII.

CASE OF COCCYODYNIA.

By W. R. FOX, M.D., San Leandro, Cal.

Mrs. K., aged 23, a resident of Wilmington, Ill., consulted me February 1st, 1869, about a severe pain in the region of the coccyx. I learned from her, that ten months previous to this date she was delivered of her first child, after a tedious labor. Her recovery from the accouchment was imperfect, suffering for months from symptoms of anæmia.

Although her general health had improved somewhat, under tonic and restorative treatment, yet she complained greatly of pain in the lower part of the back. The pain was very much aggravated by walking, sitting down, or rising from the sitting posture. Upon examination, I found the lower joint of the coccyx to be motionless and tender to the touch. The pelvic organs were in a healthy condition, except that there was slight prolapsus uteri. There was no vaginismus. I pronounced the case to be coccyodynia, and advised amputation of a portion of the coccyx. As she had obtained no relief from treatment, but was growing worse, she readily consented to the operation.

The operation was performed in the following manner:—The patient was placed on the right side; and with the index-finger

in the rectum, I made firm pressure outwardly. Then an incision was made on the median line, down to the bone, and of sufficient length to admit of disarticulation at the second joint. The two lower bones were then separated from their attachments and severed at the second joint with small bone forceps. The wound was closed with metallic sutures, and the greater part healed by the first intention. My friend, Dr. E. R. Willard, assisted at the operation.

The result, in this case, was perfectly satisfactory. In a few weeks, Mrs. K. was attending to her household duties, free from pain, having greatly improved mentally and physically. A short time since, I received a note from her saying she was in the enjoyment of good health, the operation having been a success, etc.

Dr. J. C. Nott, formerly of Mobile, recommended and performed this operation 25 years ago, 15 years before the attention of the profession was called to it by Professor Simpson.

Original Translations.

UPON THE MODIFICATIONS WHICH TAKE PLACE IN THE SPINAL CORD, OCCASIONED BY THE SECTION OF THE NERVES OF A LIMB.

By A. VULPIAN.

Translated for the Examiner, *from Archives de Physiologie Normale et Pathologique.*

I have described, in a paper published last year, the modifications which take place in the spinal cord, following the amputation of one of the inferior members. In two cases, where I was able to examine the spinal nerve, a long time after the amputation of a limb, I have observed a diminution of volume in the corresponding half of the cord, especially in the region of this organ, associated with the origin or termination of the nerves, destined for the amputated part.

Some months afterward, M. W. H. Dickinson published * the results, which he had obtained during previous years, from examinations of the spinal cord, in similar conditions.

M. Dickinson mentions four cases; but in one of these, where he encountered an amputation of the thigh, the spinal cord could not be examined. He was obliged to confine his investigations to the sciatic nerve of the stump; and he ascertained the disappearance of a considerable number of nervous fibres, although the nerve had retained its ordinary aspect and its normal size. M. Dickinson, then, has studied the spinal cord, in three cases of amputation. In the first case, he examined the cord of a man, 74 years old, who had submitted to amputation of the left thigh, at the reunion of the upper and middle thirds, when he was 21 years of age, that is 53 years before his death. Here again, in the sciatic nerve of the side operated upon, the disorganization was so complete, that the nervous structure could scarcely be recognized, and the muscles of the stump were greatly atrophied. There was only a very slight diminution of the volume of the gray substance of the left side. At the level, and throughout the length, of the dorso-lumbar enlargement, the left posterior fascia was, in every way, perceptibly reduced, and especially so, near the gray commissure. This alteration appeared in the whole extent of the dorsal region. The connective tissue of this fascia appeared thicker than in the posterior fascia of the opposite side. Otherwise, there was no alteration of other parts of the cord, and the gray substance, on the right and the left sides, offered the same histological characteristics. The posterior roots of the left side, at the level of the inferior part of the cervical region, for a distance of two inches along the cord, presented a smaller volume than the corresponding roots of the right side. A considerable number of nervous fibres were much atrophied.

There was a similar alteration in the anterior roots of the same side, but in a less degree. In the cervical enlargement,

* On the Changes in the Nervous System, which Follow the Amputation of the Limbs.—*Journal of Anatomy and Physiology.* By G. M. Humphrey and W. Turner. November, 1868, p. 88.

the left posterior fascia was nearly one-third smaller than that of the right side, and there was visible a *train* of connective tissue, almost destitute of nervous fibres, extending from the surface of the cord toward the gray commissure, and separating *the* posterior fascia in two parts, nearly equal to each other. There was also a slight diminution of the volume of the gray substance, on this side, without perceptible histological modification. The alteration extended into the bulb, where it occupied only the posterior pyramid; beyond that could not be traced.

Finally, the third case has been furnished by another pensioner of Greenwich (age not given), who, in consequence of an accident, had suffered amputation of the right fore-arm, in 1845. He died in 1867, 22 years after the operation. Here, again, M. Dickinson has described quite evident atrophy of the corresponding posterior fascia (right side), in the entire length of the cervical enlargement. This fascia, as in the preceding case, was reduced to two-thirds of its normal volume. All the gray substance of this side was slightly diminished in size, without histological alteration. †

If the results obtained by M. Dickinson are compared with those given in my work, there will be found marked difference, as he himself has said. In cases which I have studied, the anterior fascia was especially atrophied. This fascia appears to have experienced no alteration of size, in the cords examined by M. Dickinson. On the contrary, the atrophy was limited, almost exclusively, to the posterior fascia of the side corresponding to the amputated member. Our descriptions invariably agree regarding the decreased dimensions of the gray substance, on the side of the operation. I have again examined the spinal cord, of which there was doubt, in my second observation, and I am satisfied that the description, as I have given it, is correct. Meanwhile, I have, perhaps, not stated with sufficient clearness, that the posterior fascia, in this instance, had not preserved its normal dimensions, and that it

† The work of M. Dickinson is accompanied with plates, which afford an exact idea of the modifications arising in the spinal cord, in these cases.

was much decreased in volume. This will be evident upon a glance at the figures which represent this nerve (1868, pl. 11, B^1 B^2).

At present, it is not possible for me to explain satisfactorily, the difference existing between the alterations described by M. Dickinson and those witnessed by myself; as observations increase, we shall understand these dissimilar conditions.

Since the publication of my paper upon this subject, I have had two opportunities of examining the spinal cord of persons who had submitted to the disarticulation or the amputation of a lower limb. I will give the results obtained in these two cases.

Obs. I. Mr. V., after the battle of Magenta, 1859, suffered a disarticulation of the left thigh. The operation was performed by Jules Roux. Ten years after (1869), the man died of phthisis pulmonalis, at the hospital, Lariboisiére, in charge of M. Oulmont. He was then 34 years old, and, therefore, had submitted to the operation at the age of 24. The spinal cord was removed by M. Laurent (assistant of M. Oulmont), and sent to me by the advice of my colleague, M. Verneuil.

Before placing the nerve in a weak solution of chromic acid, some layers of arachnoid fibres were noticed, upon the posterior face of this organ. There was also a little congestion, and, perhaps, thickening of the inner surface of the spinal dura mater, upon the posterior part of this envelope, at the level of the cervical region.

Transverse sections, made at different intervals of the cord, in its fresh state, showed to the naked eye, that the gray substance was less voluminous, on the left than on the right side, in the inferior part of the dorsal region, and in the dorso-lumbar enlargement. The white fasciæ, and particularly the posterior fascia of the left side, were in a similar condition.

When the spinal cord was sufficiently hardened by the chromic acid, incisions were made at different places; and examination by the microscope showed very perceptible diminution in the size of the left posterior fascia, and which—especially marked at the level of the dorso-lombar enlargement—was still

apparent throughout the dorsal region, as far as the cervical enlargement. Even there, the same difference appears, in a slight degree, between the two posterior fasciæ, in the entire length of this enlargement; it is not apparent in the remainder of the cervical region, as far as the Rachidien bulb. Incisions made in the terminal cone of the dorso-lumbar enlargement still exhibit the same modifications, when not too far removed from the centre of the enlargement; but the resemblances in the two halves of the nerve increases in proportion to the approach to the lower extremity of the cone.

Throughout the altered portion of the spinal cord, and especially at the level of the dorso-lumbar enlargement, the difference between the white substance of the two sides is not restricted to that pertaining to the posterior fasciæ. Exact measurement shows that the left lateral fascia is not so thick as the one on the right. The anterior fasciæ present a nearly equal surface of extension, especially in the portion comprised between the anterior furrow and the internal boundary of the anterior cornu, and also in the dorso-lumbar region.‡

The gray substance, in the dorso-lumbar enlargement, presents a smaller surface of section on the left than the right. The difference extends through all portions of this substance, the anterior as well as the posterior cornu, and the intermediate tissue. The posterior cornu always exhibits the greater reduction of volume, as it is much smaller on the left than on the right side. The gray substance seems to extend equally on either side, as far as the dorso-lumbar enlargement.

Finally, in these modified portions, especially in the dorso-lumbar enlargement, the left half, regarded as a whole, and no longer considered in detail, is smaller than the right half. This difference is immediately apparent, upon an examination of a transverse section of the entire cord, in the region under consideration.

‡ It is necessary to state, that under some incisions, the left fascia was a little larger near the anterior commissure than the right anterior fascia, at the same level. (Fig. I. A.) The difference between these fasciæ was inverse to that existing in the posterior fasciæ; but it was less decided, and did not appear at all sections.

The granular appearance of the nervous fibres is greater, usually, in the left than in the right posterior fascia; it is so, at least, in the region of the gray commissure. The nervous-tissue is relatively more developed on the left than the right, in consequence of the diminished calibre of certain nerve-fibres, and, doubtless, of the disappearance of others. This tissue even appears to have experienced a slight hyperplasia.

There are no appreciable histological changes in the gray substance. The nerve-cellules of the different groups are recognized on the right and left. I have thought, under certain incisions, that these cellules were less numerous on the left than the right, especially in the external lateral group of the dorso-lumbar region. The vessels of both sides exhibit upon comparison the same characteristics in diameter and in structure.

The nerve-roots of the two sides, which are related by origin or termination to the dorso-lumbar enlargement, present the same appearance to the unaided eye. They are almost alike in size, and after maceration, in a solution of chromic acid, have the same color. Now, it is known that when the nerve-roots are atrophied, they take a lighter tint in this solution than when they are in a healthy state. Moreover, they have been examined by means of the microscope; and it has been impossible to ascertain from that any real alteration, such as the disappearance or the diminution in calibre, of the nerve-filaments, with or without granulations.

With the exception of what has just been said relative to the roots of the nerves, this observation coincides very nearly with those of M. Dickinson. In this case, as in those which he has examined, the gray substance and the posterior fascia were especially atrophied. In the following observation, the changes in the portion of the cord, corresponding to the amputated member, were far less apparent than in the instance just related.

Obs. II. Mr. S., aged 84 years, admitted to the hospital of Bicêtre, had an attack of apoplexy on the 6th of September, 1869. This was followed by hemiplegia of the right side. He died September 16th, in the care of M. Luys. There was found

softening of the cerebral substance, on the left side, coinciding with the obstruction of the corresponding sylvian artery. This man has submitted to the amputation of the right thigh, near the inferior third, in 1853; probably in consequence of a fracture of the femur, occasioned by a fall from a vehicle. He was then 68 years old. Besides this, there was anchylosis of the elbow, on the same side. These particulars have been given me by M. Troisier, interne to Bicêtre, when he sent me the spinal cord of this man. It appears, also, that they found at the autopsy a small cavity (softening?), in the left half of the protuberance; and this half had diminished in size, especially below the cavity. The atrophy was not apparent in the Rachidien bulb. There were numerous layers of arachnoid fibres upon the posterior surface of the spinal cord.

After macerating the cord in a weak solution of chromic acid, for a month, sections made in different parts of the organ showed only a trifling difference in the two halves of the dorso-lumbar enlargement. Meanwhile, in this enlargement, and towards the inferior border of the dorsal region, the right posterior fascia is certainly a little smaller than the one on the left. The gray substance presents the same form and dimensions on both sides. The two halves of the cord resume their similiarity, in the greater part of the dorsal region, The difference between the two portions reappearing directly above the dorsal region extends as far as the cervical enlargement; but there the right anterior fascia is perceptibly smaller than the left. There is no more disparity between the anterior fasciæ, in and below the cervical enlargement. The nerve-tissue, there, is a little more developed in the posterior median granular fasciæ, particularly upon one side, than in its normal condition.

In the points where we have discovered a diminution of volume, either of the posterior or the anterior fascia of the right side, the substance of the nerve-tissue is likewise more abundant. But it is difficult to decide whether there is really an increase of the elements of this tissue, or whether it is more condensed by the disappearance or diminution of the nervous fibres. The intra-medullary vessels are decidedly larger than

in the normal state, but they do not differ on the right and left.

We would state, in conclusion, that an innumerable quantity of amyloid bodies are found throughout the dorsal region of the cord, and that they are more numerous probably on the right than on the left, toward the lower part of this region. These amyloid bodies are seen most plainly in the posterior fasciæ, and in the posterior part of the lateral fasciæ. A considerable number exist also in the atrophied fascia of the portion immediately above the dorsal region.

It is evident that the modifications revealed in this instance are much less decided than in the previous case, or in the observations already published by M. Dickinson and myself.

To account for this difference, it is necessary to take into consideration the time which had elapsed between the date of the amputation and that of death, and especially the advanced age of the patient, when the amputation was performed. Now, in our last example, a man, 68 years of age, at the time of the operation, died, 16 years afterward. In the first case, it is true death occurred, only 10 years after the operation, yet the patient was but 24 years old when the thigh was disarticulated. The woman mentioned in the first observation, that I published last year, had suffered amputation of the right limb, at 12 years of age, and died 47 years after the operation. In the second case, there was doubt concerning a woman who was 39 years old * when her left limb was amputated, and who died 20 years later.

M. Dickinson, in his first observation, says, the patient was 21 years old when the amputation of the thigh was performed; death ensued 23 years after the operation. In the other two cases, the age is not given. The individuals each lived 23 years after the amputation of an arm. From the comparison of these data, it is evident at once, that the slight modifications described in my second observation, should be attributed especially to the advanced age of the subject at the time of the amputation.

* By an oversight, the age was not given in the note published last year on this subject. The woman had suffered amputation of the left limb, when 39 years old, and died of pneumonia at the age of 59.

The atrophie of the right anterior fascia, which was quite apparent in the upper part of the dorsal region and as far as the cervical enlargement, was certainly not occasioned by the amputation of the thigh, while, at the same time, the anterior fascia preserved its normal appearance, in the greater part of the dorsal region, and in the dorso-lumbar region. Should this be attributed to the diminution of the movements of the right arm, in consequence of the anchylosed elbow? In the absence of demonstrated facts, this question cannot be answered.

The first of the two new illustrations which I publish to-day, confirms, in many respects, those I have already made known, and those for which we are indebted to M. Dickinson. As I have already remarked, it is more nearly allied to the cases observed by M. Dickinson, than to those which I have examined. It is true, that in my observations, also, the posterior fascia was the portion of the white substance most atrophied. But I have not seen, as has M. Dickinson, decided alterations in the posterior nerve-roots, and, consequently, I am scarcely inclined to consider the entire atrophy of the posterior medullary fascia, simply as the direct and inevitable consequence of the posterior roots of the nerves, destined to the part amputated.

Notwithstanding the notable differences existing in the observations just published, they at least concur to demonstrate that the amputation of a limb occasions modifications in the gray and white substance of the spinal cord, and that these modifications are greatest in the portion of the cord which is related to the nerves of the amputated limb.

Since I first studied this subject, I have been desirous to know whether the simple section of the principle nerves in the limb of an animal would produce similar results. But it is only within a few months that I have been able to make this investigation.

M. Philipeaux, at my request, severed the sciatic and the crural nerves, in young rabbits, and in a full grown rabbit. I will give only three of the experiments, made on the young animals.

Exp. I. On the 26th of February, 1869, a section of the sciatic, and a branch of the crural nerve, of the right side, was made upon a rabbit, about a month old. The animal died, April 1st, 34 days after the operation. The reunion of the ends of the sciatic nerve was already well effected; and in the periphery, among the numerous fibres still altered, there were found many which were restored, and which possessed about half the diameter of the normal filaments.

The spinal cord having been hardened in a solution of chromic acid, thin layers of the organs removed at different distances were examined. Unfortunately, the maceration in the chromic acid rendered the nerve brittle, and it could not be satisfactorily examined. It may be stated, meanwhile, there were a few more granulations in the posterior fascia of the right side than of the left.

Exp. II. The same section was made in the left side of a rabbit, about a month old, June 3d, 1869. This animal died July 9th, 36 days after the operation. The sciatic nerve was found in the same condition as in the previous experiment.

The spinal nerve was examined, after hardening in a weak solution of chromic acid. The cord was preserved only in the lumbar and inferior dorsal region.

The nerve was first examined on the 12th of August, and incisions in the upper part of the lumbar enlargement showed that the posterior fascia of the left side was narrower than that on the right, and had even assumed a lighter color, while in the chromic acid, all the gray substance of the left side presented a lessened diameter. Other sections made in the cord still present this difference, although in a less degree. There can be no doubt regarding the disparity in size which exists in the posterior fasciæ, throughout the lumbar enlargement, and which is more evident at the level of the middle part of this enlargement than elsewhere. By taking comparative measurements, we ascertain that in some sections, the right posterior

We have employed the denominations applied to man, to indicate the regions and faces of the nerve, without reckoning the difference in the attitude of the animal.

fascia exceeds the left, in the ratio of 33 to 27, in others, 30 to 25, in others, still, 30 to 22. The difference is not so great below the enlargement, in the inferior portion of the dorsal region. The remainder of the cord was not preserved. The measurements just given were taken at a little distance from the commissure. The inequality between the two posterior fasciæ exists not only in their transverse measurement, but also in their antero-posterior dimensions. The fascia of the right side is perceptibly larger in front than that of the left. These conditions almost always exist in cases of this nature.

There is no marked dissimilarity in the two anterior fasciæ. A little difference is apparent near the anterior commissure; but this is of an opposite character to that existing in the posterior fascia. In all the sections, the left anterior fascia is larger than the right fascia, at the same point.

Exp. III. The same experiment (section of the sciatic nerve and one of the principal branches of the crural nerve) was made in the right side of a young rabbit. The animal died, June 17th, 1869, 50 days after the operation. The inferior portion of the cord (dorso-lumbar region) was put in alcohol for three days, and then in a weak solution of chromic acid. In this instance, the difference between the two halves of the cord is much more distinct than in the preceding cases. A section made near the upper part of the lumbar enlargement shows that the posterior fascia of the right side is smaller, by nearly one-half than that on the left; the ratio between the two fascia being that of 11 to 20. There is also considerable inequality in the two posterior cornua of the gray substance; measured in the greatest length, that of the left side corresponds to 28 divisions of the micrometer, while the one on the right corresponds to only 25 divisions. The anterior cornua of the antero-lateral fasciæ were of nearly the same dimensions, on the right and left. There is no apparent augmentation of the connective tissue, in the diminished posterior fascia. The decrease in the volume of this fascia is attributable mainly to the retraction of the nerve filaments, upon themselves. In fact, the diameter of many of these is smaller than the fibres in the corresponding

fascia. The number of the nerve cellules is the same on both sides, and their histological characteristics are alike. In the inferior terminal cone of the spinal cord, the difference between the two halves grows less, and disappears entirely at a certain distance from the middle of the lumbar enlargement.

Exp. IV. The following experiment resembles the preceding ones, but was made upon a full-grown rabbit. The section of the large branch of the sciatic nerve, and of the crural nerve, of the right side, was made July 14th, 1869. The animal died, October 3d, 2 months and 19 days after the operation. An examination of the spinal cord, at the dorso-lumbar region, and more particularly of the lumbar enlargement shows, that the right posterior fascia is a little narrower than the left, and the furrow of separation curves a little toward the left fascia.

The two posterior fasciæ present less inequality than in the former experiments; where the difference is greatest, the right fascia exceeds the left, in the proportion of 30 to 25. The preceding experiments present the same phenomena that are observed in the individual, after the amputation of a limb. They show, as well, that the modifications in the spinal cord are more rapid and more extended, in proportion to the youth of the subject and the time intervening between the operation and the event of death. When the individual is very young—taking, for example, a rabbit one month old—a striking inequality can be observed in the two posterior fasciæ, even at the termination of 34 days. If the subject is grown, the modification of the posterior fascia, on the side of the several nerves, is less advanced at the end of two months and a-half than it was at the expiration of a month, in the young animals. Observations of the human subject and the experiments made upon animals show, that the arrest of development is not the only change taking place. Indeed, the fourth experiment and the cases of amputation, mentioned in this article, relate to adult individuals, the majority of whom had passed long ago the period of development. And in these cases, the atrophy of the nervous fibres could be ascertained. Upon comparison of the two sides of the cord, and after the assurance that one-half

presents a smaller surface of section than the other, it is apparent that the posterior fascia of the atrophied side does not contain so many large nerve-filaments, as the posterior fascia of the opposite side. Moreover, the connective tissue is sometimes less developed there. Thus, as I said in regard to one instance, it is difficult to decide whether there is a real increase of this tissue, or whether this modification is not attributable, mainly, to the disappearance or the diminution of numerous nerve-filaments, the nerve being retracted, condensed, as it were, in consequence of this alteration.

The diminished number of the large fibres is a decisive indication, that in these conditions, a veritable work of atrophy had taken place.

But does this work of atrophy comprehend all?

We have seen that in the young subjects, rabbits, one and two months old, for example, the difference between the posterior fasciæ is already considerable, 34 days after the section of the sciatic and the crural nerves, of one side. †

Now, we can suppose, that in these cases, there had been not only atrophy of the nerve-filaments already existing, but even relative arrest in the development of the nervous elements of the fascia, corresponding to the several nerves. And even in the adults, if it is true, that during the whole period of life, some elements are gradually atrophied, while others develope, it is possible that this work of slow renovation may be more or less restricted, in different parts of the cord, in consequence of the section of the nerves, which originate in that region. It must be always understood, that these hypothesis are yet to be demonstrated, and that the only thing clearly established is the atrophy, which appears alike in the young and old.

It is impossible to obtain satisfactory conclusions, from examining the mechanism of this atrophy. The supposition

† In nearly all the experiments upon rabbits, it is certain that the entire crural nerve is not severed, and also that one of the branches of the sciatic nerve is intact. The modifications of the corresponding half of the spinal nerve would have been still more apparent if the section of the nerves had been complete.

immediately presenting itself is, that the atrophy of the posterior fasciæ is due to a work of ascending degeneration, occasioned by a functional inertia of the several nerves; the morbid process, starting from the place of section, invades, one after another, the upper extremity of the nerves, then the posterior medullary fasciæ, then the gray substance itself.

This is the supposition which M. Dickinson considers probable; and it is grounded upon the alteration which he has observed in the superior extremity of the nerves severed, in the cases of amputation, or in the nerve-roots connected with the modified region of the spinal cord.

I by no means doubt the accuracy of M. Dickinson's observation, but I have found nothing similar in the cases of amputation, in which I could examine the nerves of the stump, or the nerve-roots relating to them. The same result appeared in numerous cases of resection of the different nerves, the sciatic among others, observed in animals or in man. In these cases, when examining the central part of the nerves, at a little distance from the place of section, I have never found any alteration in the fibres, analagous to that displayed in the periphery. There were no granular fibres, and what I have said regarding a case of excision, of a segument of the sciatic nerve, in man, can best express the result of my investigations on this subject. In fine, if the modification of the superior extremity of the sciatic nerve really does exist, it is merely a diminution in the diameter of some nerve-fibres. ‡

I believe, then, that the alterations M. Dickinson describes are exceptional, and, consequently, they cannot furnish an explanation applicable to all cases.

Without admitting the degeneration noticed by M. Dickinson, the hypothesis of atrophy, by functional inertia, can still be sustained, the atrophy being limited to a diminution in the nerve filaments. But as the number of fibres thus affected varies considerably, it is doubtful whether one such modification suffices to account for the atrophy of the corresponding half of the cord, in the region connected with these nerves; an atrophy

‡ *Archives de Physiologie Normale et Pathologique*, 1869, p. 560.

which is, on the whole, quite extensive. Even the distribution of the atrophy prevents one from accepting this interpretation, as being fully satisfactory. Indeed, if I have alluded more frequently to the atrophy of the posterior fascia, it is not because this was the only atrophied part of the cord, but simply that the modification was greatest there, in the cases delineated in this paper. But there was also a diminution in thickness throughout the gray substance, in the anterior, as well as the posterior cornu, although it was more abundant in the former. Besides, the white substance of the lateral fascia was also thinner than in the normal state. Now, how can these different modifications be derived exclusively from a partially ascending atrophy of the severed nerves and of their spinal roots? Strictly speaking, the diminished volume of the posterior fascia and of the corresponding cornu may be explained thus. We can understand even the atrophy relating to the anterior cornu, if we admit there is an ascending modification, in the motive, as well as in the sensative, fibres. The anterior fascia, in this hypothesis, would remain exempt, or nearly so, because the fibres of the anterior root do not contract, in direct continuity with this fascia. But why do the laterial fasciæ present a similar diminution in thickness. It is true, this question can be answered by admitting that the motive and even the sensative fibres, after penetrating the gray substance, become a part of the lateral fasciæ, and that the atrophy of a considerable number of these fibres must occasion a diminution of volume in the corresponding lateral fascia.

However this may be, the explanation does not satisfy me completely. It does not account for such cases as I described last year, where the greatest atrophy existed in the anterior fascia. On the other hand, if the atrophy in the fibres of the nerve severed by amputation, in man, and by experimental section, in animals, is caused by the absence of the function of the nerve, I do not understand why only a small portion of these fibres are atrophied, while the great majority preserve, almost entirely, their normal characteristics, for a period of months, and even of years.

It is just as difficult to comprehend how an atrophy of this nature can be developed so rapidly in young animals. It has already been shown, that when the nerves of a lower limb have been severed, 34 days suffice to occasion a decided modification in the posterior fascia, and in the gray substance of the corresponding side. From these hypothesis, might it not be inferred, that the absolute functional repose of a nerve occasions, at its point of origin or termination, in the gray medullary substance, a physiological modification, followed, after a time, by a histological modification, which would determine the point where the atrophy of different parts of the spinal nerve would disappear?

Or would not the irritation, occuring in the severed nerves during the work of reparation, and which frequently exists long afterwards, limit the atrophy of the spinal cord, by its reaction upon that organ? The supposition that the process of atrophy begins in the gray substance gives no better explanation of the extensive ascending propagation, which takes place in the posterior fasciæ involved. I remember cases of amputation, in which this fascia, atrophied at the level of the dorso-lumbar enlargement, was also smaller at the superior dorsal region, than the fascia of the opposite side.

Before drawing any definite conclusion from these different hypothesis, it will be necessary to compare them with a number of facts additional to those already in our possession. The points which, I think, first merit especial attention are, the condition of the roots of the severed nerves, and of the nerves themselves, the histology of the gray substance, the number and form of the nerve-cellules, the condition of the nerve-tissue, etc. So long as contradictions and doubts remain, on these points, it will be impossible to form any legitimate theory of these modifications in the spinal cord.

Let us say, in conclusion, that these results, both of the clinical observations and the experiments mentioned in this paper, which show that perceptible modifications have immediately followed the section of the nerves, afford some light upon the

important fact discovered by M. Brown-Séquard,* that epilepsy can be produced by severing the sciatic nerve. M. Brown-Séquard has made this application of the investigations referred to, while I presented a recapitulation of this work to the Society of Biology.

Just before sending this article to the press, I received from M. Trosier another spinal nerve, belonging to a man who died at Bicêtre. At the Hotel Dieu, on the 28th of May, 1868, this man submitted to the amputation of the left fore-arm, in the middle third. The operation performed by M. Langier was necessitated by a severe wound, from a fish-hook, penetrating the metacarpo phalangal articulation. In the month of January, 1869, the axillary glands became enlarged and painful. The patient being pronounced incurable was sent to the Hospital of Bicêtre, in the month of June. He was placed in the infirmary, under the charge of M. Marcxée; and, at this time, all the axilla was invaded by an epithelial production. He was constantly confined to his bed, and experienced great suffering in the axillary region. The cachexia gradually increased, and the patient died October 13th, 1869, six months and a-half after the operation, aged 48 years.

I can only make a superficial examination of this cord, which has been in a weak solution of chromic acid, only three or four days; but I can substantiate what M. Tozier has stated, in regard to the organ in its fresh state. The left anterior fascia is evidently smaller than the right, at the level of the cervical enlargement, while the dimensions of the posterior fasciæ seem nearly equal. The atrophy of the left anterior fascia is quite plain, in almost the entire length of the dorsal region. It is not easily recognized in the dorso-lumbar enlarge-

* I must repeat here what I have said elsewhere (*Societie de Biologie*), relative to a note which I published in the *Archives de Physiologie*, 1869, No. 2, p. 297: *Epilepsy observed in a guinea-pig, which had suffered section of one of the sciatic nerves.* I had observed this occurrence many years before publishing it, but without perceiving the relation existing between the section of the nerve and epilepsy. M. Brown-Séquard, to whom I related this case, and who had already observed similar ones, immediately showed me its signification, and requested me to insert it in our "*Recueil de Faitz.*"

ment, it exists in the entire extent of the cervical enlargement, as far as the immediate vicinity of the Rachidien bulb. In the upper part of the dorsal region, the modification of the left half of the cord is almost as great as in the cervical region. In the portion of the dorsal region alluded to, it is easily seen that the left anterior cornu of the gray substance is smaller than the right, in the proportion of 14 to 18. The difference between the anterior fasciæ is still more apparent, being in the ratio of 13 to 20. The two halves of the cord are by no means equal, when compared with each other; the right half exceeds the left in the proportion of 53 to 48, measured from the middle of the central canal, to each extremity of the transverse diameter of the cord. I will add, that neither in the cervical, nor superior dorsal region, has there appeared, from these early experiments, any thickening of the nerve-tissue, forming a part of the atrophied anterior fascia. We shall make further examinations on this point, when the cord is sufficiently hardened. The nerve-roots, at the level of the cervical enlargement, present no appreciable modification, to the unaided eye; the microscope gives the same negative result.

This new case accords with those I published last year, in which the anterior fascia was the most atrophied part of the white covering of the spinal cord. Also, it evinces, that in long standing cases of amputation, one can find, sometimes, the anterior fascia; but, doubtless, more frequently the posterior fascia of the same side, presenting a greater atrophy than the other parts. There is one grave difficulty, in addition to those just mentioned, and which can only be solved by the aid of more numerous and complete observations, with details of the pathological anatomy, as well as particulars relative to the physiological state of the amputated member, either before or after the operation.

Foreign Correspondence.

R. R. Allgemeinen Kraukenhaus,
Vienna, Dec. 11th, 1869.

Dear Examiner:—Dr. Truehart, of Virginia, formerly of Galveston, Texas, has introduced some new instruments and modifications of instruments into obstetric practice, during his study here, of which I will only give a cursory notice, at this time, since the final form of all of them is not yet determined; and when so, the Doctor will probably lay a description of his instruments and their practicality before the profession. And, first, I may mention his decapitator, to be used in place of the blunt-hook. The last form of it I have seen consisted of a silk cord, wound with wire, and about three feet long, having, at either end, a loop, admitting the point of the index-finger, and thus carried around the child's neck. A strong wire or steel rod, having a hook at one end, is then introduced hooked into the loop and drawn out. Both ends of the wire are now slipped through a cylinder or tube, which is pressed firmly against the child's neck. The wire is then worked similar to a chain saw, and the neck divided. His next instrument is a modification of the perforator, and another I may call an *extractor*, to be used in place of the *cranio-clasp*. It consists of a piece of steel, about three inches long and an inch wide, slightly curved, to the middle of which an iron rod and handle are attached, by means of a hinge or joint. After the perforation has been made, the curved piece is introduced, parallel to the rod, and made to assume a cron position, thus extending an inch or more each side of the perforation, on the inside of the cranium. The extraction is then made. In one of the handles of the obstetric forceps, he has placed a screw, with an oval head, which fits into a socket of the other handle, and thus preventing too great pressure on the child's head, by a too close approximation of the handle. When the head is small or has become compressed, the screw can be turned up and the handles brought together. The screw also tends to keep the handles in place and prevents the blades

working back and forth on the head. They are also made looser in the joint, which allows them to adapt themselves more perfectly to the head. A pair of these forceps has been sent to New York, for trial, and your readers will probably be made acquainted with the result. He has also introduced something of a new method for the resuscitation of stillborn children, which he has practised in Professor Braun's wards with excellent success.

By virtue of his inventions, etc., he has been allowed extra advantages in the obstetric wards and invited to present his instruments before one of the medical societies of the city.

They promise to supply a want of the profession.

Some time since, in one of my letters, I made mention of a case in Bonn, which was operated on for artificial anus, and with apparent success. I have now occasion to note another case, with contrary results. On the night of November 26th, a female child was born (three weeks premature), with no anal opening. An hour or two afterwards, Professor Bilroth was called and made an operation, but failed to find the rectum. The next morning, the infant was presented at the clinic, vomiting, cyanotic, and breathing irregularly. A second incision for artificial anus was made, in the left inguinal region. When the peritoneum was incised, about six ounces of straw-colored fluid escaped; and the first thought was that the bladder had been perforated. Digital examination, however, proved it to be the abdominal cavity. The intestines were entirely collapsed, and it was with some difficulty that a sling of intestine was secured and fastened with sutures in the wound, and when done, it was not certain whether he had to do with the colon or small intestine.

When the intestine was incised, a small quantity of gas escaped, but no meconium or fæces. The wound was dressed with charpie, and the child sent home breathing somewhat more regularly and less cyanotic. Two days afterwards, the child died, and *post mortem* examination demonstrated extensive peritonitis, with the rectum terminating in an oval sac, near the neck of the uterus.

Operations for artificial anus are sometimes made in the lumbar region, where an incision of the peritoneum is unnecessary; but in case of collapse of the intestines, as in the above case, it would be much more difficult to secure a portion of the bowel, on account of the consistence of the parts, than would be the case in the inguinal region.

The Professor said, it was not ordinarily advisable to operate in such cases, until the child was 24 hours old, or more, as then the rectum would be more likely to be distended with meconium, and, consequently, more probability of its being reached. I think he said he had operated three or four times in the lumbar region, but without success.

Professor Braun has gone to Rome, I understand with the Empress Elizabeth, to be present at the accouchment of her sister, the Ex-Queen of Naples. His assistant, Dr. Mayerhofer, lectures during his absence.

A boy, 12 years old, with epispadias or deficiency of the anterior wall of the bladder, in much the same condition, I think, as a young man in the United States, who goes about exhibiting himself to medical schools and hospitals, was admitted to the hospital here, in Oct.; and on the 25th of the same month, underwent a plastic operation to supply the deficiency.

An oval flap, four or five inches long, was taken from the region of the umbilicus and turned down, so that the cutaneous portion of the flap now formed the internal wall of the bladder, and was attached to the prepared edges by several sutures For some days after the operation, it was difficult to tell whether the whole flap had necrosed or not, except by trying the sensation and life, by the prick of a needle.

Nov. 3d. The necrosed portions of the flap were removed, but it had made no union, and its edges were entirely free, though it was somewhat curled up. The surface from which the flap was taken is covered with healthy granulations and healing over.

Nov. 11th. The flap was again brought down, its edges pared and attached by wire sutures, enough of the flap still remaining to form the anterior wall.

Nov. 15th. The flap had united in several places, but last night the patient had the nightmare, sprung up in bed, and separated all the adhesions. The flap is now too small to supply the deficiency and has a tendency to roll back from whence it was cut.

Nov. 25th. A cicatrix covers nearly one-half of the surface from which the flap was taken. The edges of the flap are cicatrizing, which is now comparatively small and stands up perpendicular to the abdomen.

The general health remains good.

Dec. 5th. The case remains about the same as at last date. Another operation will soon be made, taking a flap from one of the inguinal regions. If that does not succeed, another will be taken from the other inguinal region, and, finally, if necessary, the scrotum will be used. Should none of these succeed, I presume the case will be abandoned.

Will furnish further notes of the case.

Yours truly, F.

Correspondence.

REPLY TO PROF. BIGELOW BY PROF. GUNN.

Editor Chicago Medical Examiner:—Allow me to reply to Prof. Bigelow's letter in the last number of your journal, in which he trusts that I will "acquit him of intentional injustice." I sincerely wish that the character of his letter was such as to make it easy for me to do so. He opens with the following sentence:—

"In a pamphlet which Prof. Gunn has rather widely distributed in this vicinity, and which has been brought to my notice since I recently returned from abroad," etc.

I trust that Prof. Bigelow did not think that I had omitted him in my distribution; for, I assure him, that I was more

anxious to have him see my pamphlet, than any other one man; and I consequently mailed the first copy, sent out, to him.

As to the matter in controversy, it is a very simple question: did I anticipate Prof. Bigelow several years in recognizing the influence of the capsular ligament, including the ilio-femoral ligament, upon the *dorsal* and *ischiatic* varieties of luxation? This is distinctly what I claim: in proof of which I quote from a short article which I published in the *Peninsular Journal*, in 1853. Speaking of dorsal dislocation, I used the following language:—

"During the dislodgement of the bone, the superior and posterior portion of the capsular ligament is ruptured, through which the head protrudes; while, from the position of the limb at the instant of protrusion, *the anterior and inferior portion* is very much relaxed, thus allowing the head to rise easily over the rim of acetabulum. As soon as the head settles into its position upon the dorsum of the ilium, the direction of the limb is changed, and the untorn portion of the ligament becomes more tense, and, for this reason, the head of the bone can not be readily returned to its place, till the limb is again placed in a position to relax it."

In the same article, also, I used the following language:—

"This principle can be successfully applied to the reduction of the backward luxation of the femur into the ischiatic notch."

In 1856, I wrote as follows:—

"The upper and posterior half of the capsule was then cut away, leaving the *anterior and inferior half whole*, and the round ligament was divided. In this state, it will be seen that *all tissues* are entirely out of the way (and could neither afford protection against dislocation, nor impediment to reduction), except the *anterior and inferior half* of the capsular ligament."

I think my position, taken in the above quotations, covers, so far as *dorsal* and *ischiatic* luxations are concerned, the entire ground assumed by Prof. Bigelow, in reference to the *same dislocations;* notwithstanding, he says that I "show no knowledge of the existence of an ilio-femoral ligament." (Courteous, certainly!) The *constituent* character of the ilio-femoral ligament, in relation to the capsular ligament is proven, not only

by the anatomy of the parts, and by reference to all anatomical descriptions of the same, but also by Prof. Bigelow himself, who says:—

"The anterior part of the capsule of the hip-joint is a triangular ligament, of great strength."

I beg the reader to notice the force of the language "part of;" and I appeal to any surgeon, whether in speaking of the capsular ligament of the hip-joint, he has mentally excluded the ilio-femoral fibres.

Referring to my claim, Prof. Bigelow says:—

"Prof. Gunn should remember, that although the greater may, in one sense, include the less, as a block of marble does a statue, yet there is no sentence or word in his whole pamphlet which alludes to the existence of an ilio-femoral ligament in the capsule."

Now, let us take, for an example, the dorsal luxation: does Prof. Bigelow claim that the capsule is completely torn asunder, with the exception of the ilio-femoral fibres? If so, why "circumduct," so as "to rupture in this way the whole of the rest of the capsule?" If *not* so, I would suggest that Prof. Bigelow's pet statuette is not yet chiseled, and that truth is better represented in the block as I left it.

I make no claim to Prof. Bigelow's ideas, in reference to other dislocations. As to them, we differ widely. How soon, or to what extent, I may hereafter adopt them, time, observation and thought will determine. But if, in the two specified, we are so far asunder in our views of the *lesion*, and its influence, why does Prof. Bigelow take pains to state that he "first met" my "pamphlet" several years after my (his) own theory was made public?" I would suggest that this *naive* remark is probably significant of Prof. Bigelow's own consciousness.

In addition to the above, permit me to append the following —I hope impartial and *strictly* fair—paragraphs, which I had already prepared as a postscript to my little pamphlet:—

"The part played by the *anterior* and *inferior* portion of the capsule of the hip-joint, in its untorn condition, in *dorsal* and *ischiatic* luxations of the head of the femur, both in producing

the characteristic phenomena of these lesions, and in opposing ordinarily directed efforts to reduce them, was worked out by process of thought *and experiment.* But the idea, that in downward and forward luxations, the *upward* and *backward* half of the capsule remained untorn, and that, in forward luxations, the *posterior* half was unlacerated, was reasoned out, both from analogy and the manner in which these accidents occur. But no experiment was instituted to prove the position taken. I was, therefore, unprepared, in issuing this edition, to either take issue, or coincide with Prof. Bigelow's assertion, that the ilio-femoral portion of the capsule remained intact, in all the four standard dislocations of the hip-joint.

"I have, however, since then, in preparing to illustrate my lectures on this subject, during the current session, resorted to the following experiments, to-wit:—

"A fresh, middle-aged subject was selected, upon which I first produced the forward luxation. The characteristic signs were present. I dissected away the integument and superficial fascia. The fascia lata was found lacerated from its attachment to Poupart's ligament, and through the fissure was seen the shining surface of the femoral head; clearing away this fascia, the sartorius was found overlying the trochanter major; the psoas magnus and iliacus hugged closely the outer extremity of the neck. The head lay upon the origin of the pectineus, the outer edge of which was lacerated. Dividing and reflecting these muscles, the anterior surface of the neck and head of the femur are entirely exposed. The capsule *was completely torn from the whole anterior intertrochanteric line*, including the reinforcing fibres of the ilio-femoral, and split to its acetabular attachment.

"Upon the other side, I effected a downward luxation upon the obturator foramen. An examination revealed extensive rupture of the capsule, upon the side adjacent to the foramen, and an *intact condition of the ilio-femoral* and of the capsule opposite to the rupture. Careful inspection of the mechanism of the untorn portion of the capsule, including the reinforcing fibres of the ilio-femoral, revealed the fact, that the attachment of the upper end of the ilio-femoral being so far *above* the socket made its influence identical with that of the upper and untorn portion of the capsule proper. In *mechanical effect*, the ilio-femoral may be regarded, in this accident, as a constituent part of the *upper* portion of the ligament. Experiment, also, confirmed the correctness of my directions as to the method of reduction."

I would also remark, upon Prof. Bigelow's mode of reduction, that he seems to regard the ilio-femoral as the only thing of importance or use about the joint, and proceeds to "circumduct" and tear the rest of the capsule "with impunity." Perhaps the injuries already sustained by the joint may be generally added to "with impunity;" but would it not be better and more surgeon-like to avoid further laceration? I confess that I can see but little to choose, between the application of power, by means of the pulley, or by means of the lever (which latter is essentially Prof. Bigelow's mode), only, that by the latter plan, greater speed and efficiency are attained, by a more advantageous application of the power used. Of the two, the latter is capable of the greater mischief, and both are too barbarous to be resorted to, in most cases of recent luxation.

MOSES GUNN.

Proceedings of Societies.

REPORT OF THE PROCEEDINGS OF THE MILITARY TRACT MEDICAL ASSOCIATION, HELD AT ALEDO, MERCER COUNTY, ILL., DEC. 13TH, 1869.

Pursuant to adjournment, the ninth semi-annual meeting of the Military Tract Medical Association met at Aledo, Mercer County, Ill., December 13th, 1869.

The meeting was called to order by the President, Dr. J. R. Webster.

The Secretary not being present, Dr. V. C. Secord was elected Secretary *pro tem.*

The following members were present:—Drs. J. R. Webster, of Monmouth; H. S. Hurd, Galesburg; S. P. Breed, Princeton; H. Nance, Kewanee; J. H. Brewer, Monmouth; W. D. Craig, Aledo; Wm. Byms, Windsor; J. C. Smiley, Kewanee; and V. C. Secord, Galva.

The reading of the minutes of the last meeting were read and approved.

The following gentlemen were nominated and elected members of this Association:—Drs. H. C. Graham, of Windsor, Mercer County; J. V. Frazer, Viola, Mercer County; Thomas Willots, New Boston; J. C. Kilgore, Little York; J. W. Clowes, Windsor; E. L. Marshall, Keithsburg; T. H. Brass, New Boston; J. P. Boyd, Millersburg; E. L. McKennie, Viola, Mercer County; J. K. L. Duncan, Hanlet; S. G. Hodges, Sunbeam; W. F. Suiter, New Boston; G. G. Irwin, Aledo, Mercer County; J. F. Wood, Aledo; and J. F. McCutchen, Norwood.

Dr. Brewer, of Monmouth, read a very able and lengthy essay on therapeutics and pharmacy. A vote of thanks was given the Dr., and instructions to the Secretary to have a copy of the essay sent to the CHICAGO MEDICAL EXAMINER, for publication.

Dr. S. P. Breed, of Princeton, Chairman of Committee on Surgery, read a very interesting paper on dislocation of elbow-joint, complicated with fracture of the internal condyle of humerus extending into the joint; also a case of longitudinal fracture of the humerus. He gave a very interesting and minute description of a case of oseto-sarcomatous tumor, which he removed from the posterior part of the leg, also the removal of a tumor from the nates, and the extraction of nævus from the forehead of a child. He also exhibited a specimen of calculus, weighing 27 drachms, at a *post mortem* examination, and a *polypus* from the heart of the same patient.

The Dr. dwelt at length on the ganglionic cell formation of the nerves, which was very interesting and instructive, and was listened to with great attention and interest by the members of the Association, especially our worthy President, Dr. Webster.

A vote of thanks was given to Dr. Breed for his valuable contribution, and that the Dr. be permitted to retain his essay for further investigation and research, and report said investigations at some future meeting.

Dr. Hiram Nance, of Kewanee, addressed the Association at some length, giving his treatment of several diseases, *viz.:* dysentery of children, puerperal fever, syphilis, and purpura hemorrhagica, for which a vote of thanks was given.

It was moved and seconded that the Secretary furnish a copy of the proceedings of this meeting, and send them to the Chicago Medical Examiner, for publication.

The committees being duly appointed, it was, on motion of Dr. Hurd, and seconded by Dr. Breed, that we adjourn to meet in Galesburg, on the third Tuesday in May, 1870.

J. R. WEBSTER, *President.*

V. C. Secord, *Secretary pro tem.*

DR. BREWER'S ESSAY.

Mr. President.—As a member of this Association, I have your permission to offer for your consideration a few desultory remarks. It is, indeed a favor and privilege I duly appreciate; and, allow me to say, that I consider it a pleasant duty to be performed. Not that I expect to overwhelm or astound you with new or entirely original matter; on the contrary, my remarks may even seem dull and devoid of general interest to the practitioner; but, permit me, gentlemen, to indulge in the hope that such will not be the case. I take it for granted, that we are not only progressive, but kindly indulgent—indulgent to the faults and weakness of others—progressive in spirit and practice. If we fail to reach the summit of our ambition at a bound, we may, by close application and a steady perseverence in the right direction, win and merit the reward and approbation of our fellow-men. In accordance, Mr. President, to the expressed desire of the Chairman of the Committee on Therapeutics and *Matēria Medica*, I am to confine my remarks, almost entirely, to that branch of our science. I think I may safely hazard the assertion, that it is a subject replete and full of interest to all parties concerned and interested in the welfare and advancement of medical science. Therapeutics, as we understand it, is the application, in general, of remedies in disease. I will refrain, however, from entering upon a learned dissertation. So far as relates to a medical definition of the terms, therapeutics and pharmacology, this, indeed, has been fully and ably accomplished by Professor Wood, in his excellent work upon therapeutics and *materia medica;* and, upon this point, I doubt

not, you are fully posted. Of the utility and importance of a thorough knowledge and just appreciation of therapeutics and *materia medica*, to the practitioner, there cannot be a reasonable doubt. So fully impressed am I of this impartant fact, that I deem it essentially and eminently necessary that the well-educated physician be thoroughly posted and fully alive to the importance of a just and correct appreciation of the therapeutic applicability of remedies in disease. In fact, the absence of knowledge, on this point, would, doubtless, permit us to drift hopelessly in the turbid waters of empiricism, and to be lost amid the rocks and breakers of quackish pretension.

I desire, however, to state, before entering fully upon the points to which I solicit your attention, that I do not propose to discuss at this meeting the merits or individuality of any particular drug. The limited space allowed me precludes the possibility of entering into a detailed account of the various properties and medicinal value of the countless legion of remidies contained in the pharmacopœia. My remarks, at this time, will be of rather a general character, embracing many points of interest, and, as it occurs to me, suggestions of practical importance to us all.

It is doubtless understood by many present, that I am not actively engaged in the practice of medicine, and that for the last 20 years, I have devoted the principal part of my time to the dispensing of drugs. It is, therefore, but a reasonable presumption that I have a moderate experience in this matter.

Having, then, experience, both as a physician and druggist, it is not strange, then, that I should discover the necessity and vital importance of harmony, good-will, and perfect undertanding existing between the dispenser and physician. Indeed, the connection between them should be a close and intelligent intimacy. It is, without doubt, preëminently and essentially incumbent upon the practitioner, that in his choice and selection of the pharmaceutist, who is to compound his remedies, that he use the utmost precaution and judgment. Now, this advice may seem, at first sight, as superfluous; but, upon giving the subject a moment's serious reflection, you cannot, I am confident,

gainsay this practical fact. The compounder of your prescriptions should be a man of sound judgment, large experience, and a thorough and accomplished pharmaceutist—possessing, honesty, intelligence, and integrity in an eminent degree—a worthy member and graduate of some acknowledged school of pharmacy, and who has an intelligent and just appreciation of a strict adherence and observance of pharmaceutical requirements. Now, the absence or lack of these all-important requirements will, most surely, sooner or later, lead to disappointment, annoyance, and perplexity, not only to the prescriber, but to the patient and all concerned.

Any deviation, adulteration, substitution, or ignorant rendition of a prescription, however slight, will, most surely defeat the main object sought to be accomplished by the practitioner. That there are many departures from a strict observance and an honest adherence to the pharmacopœia, we all must concede to be a lamentable fact—the pharmaceutists themselves acknowledge this to be so—and for which there cannot, or ought not to be, any excuse. Let it be understood, however, that I do not propose to make a wholesale onslaught upon the character and professional standing of our pharmaceutists, or to cast a doubt upon the honesty and purity of their intentions; on the contrary, I take pleasure in asserting that there are many, very many, honorable exceptions to this loose and dishonest following of the pharmacopœia. As a class, I think, I may safely aver that the druggists of Illinois will compare favorably with the druggists in any other portion of the United States; not only as to ability and capacity, but also for an honest and honorable commercial integrity, and who are animated with an ardent desire to further the interests and promote a radical reform in the dispensing of pure and reliable drugs. A desire for improvement and progression in this matter is manifestly evident, from the exertions that are being daily put forth, by many of our leading pharmaceutists, which, if met and sustained by corresponding and reciprocal exertions on the part of the practitioner, cannot fail in satisfactory results. In short, without a full and hearty concurrence and evident co-

operation of the physicians, and the sustaining influence of the community, the exertions being put forth in this movement must ever fall short of the mark.

It is ever an arduous undertaking for honesty to keep pace with roguery, either in invention or application. Genius is always on the alert for original developments, among the shrewd and gifted pretenders, and is ever engaged in a pertinacious search for new resources.

On the contrary, integrity sits down content with its present means, and is only spurred to novelty when set at defiance by the mortifying evidences of the advance of others in the race of progress.

It is, therefore, self-evident that me must ever be on the alert, lest, through supineness and want of activity, we lose the race.

I am constrained to acknowledge the fact, that in many instances, community, and even physicians themselves, are too apt to encourage the traffic in cheap drugs, thereby tacitly, if not directly, sanctioning the adulteration of drugs.

I hope, for the credit of the profession, that the doctors present will kindly pardon and indulge me, while I offer a few practical remarks in regard to this matter, and for the veracity of which almost every druggist in the land will sustain me.

It is the constant and increasing desire, almost amounting to a mania, on the part of the patient or his friends, to get their prescriptions compounded for nothing. The constant and persistent annoyance the pharmaceutists meet with in this respect is, in fact, most discouraging, and unless met with prompt and sterling integrity on the part of the dispenser, must necessarily, in its results, produce want of confidence in the prescriber, as well as a lack of faith in the potency of remedies.

This practice is susceptible of another very serious and damaging result. It opens wide the door to irresponsible, ignorant, and dishonest competition, and makes easy the entrance of persons who are ever ready and willing to traffic upon the afflictions of others. It gives employment and competency to the unscrupulous and incompetent pretender, whose active genius is

constant and ever on the alert, in the art of adulteration, dilution, and substitution.

Have physicians, I would inquire, given this matter the careful and scrupulous investigation it deserves? do they recognize the urgent necessity of prompt, stern, and absolute reform, and a hearty coöperation with that portion of druggists who are ready and willing to unite with them, in this much-needed reformation? To do full justice to the profession, I freely confess—permit me to say, that I do so, with much pride and satisfaction—that I have ever found the great majority of intelligent physicians on the side of progression, and fully alive to the great importance of this matter. I have within the last few years conversed freely with many practitioners, upon this subject, and they, with one accord, assure me that they are ever ready to aid and assist in elevating the professional standard of the legitimate pharmaceutist. It is also with pride that I notice the deep and abiding interest that many of our eminent pharmaceutists are taking in this all-important subject. I could call your attention to many able and well-written articles on this matter, written by earnest and worthy men; but it were needless. Suffice it to say, that this subject is attracting the notice of many of our leading physicians and chemists, and every effort is being put forth to the furtherance of this purpose. Societies and associations are being formed for the protection and elevation of the legitimate pharmaceutist, and a determined effort is manifested to purge and drive out all unreliable and irresponsible pretenders. It is even suggested that severe and stringent legislative enactments be enforced.

How far, however, these extreme measures would be sustained by the public remain to be seen. I have, however, occupied your considerate attention in this matter, perhaps, too long, although, I hope not. I consider my time well spent, if I but succeed in arresting your attention for a time to this subject; may I indulge the hope, that henceforward the members of this Association will be ever ready to extend the hand of fellowship and to aid and sustain, by their influence, the professional character of the worthy and legitimate pharmaceutist.

As I have said before, I will not discuss the merits of any particular remedy, at this meeting; it being as highly important, in this age of progression, that our attention be directed to matters of general interest, having a direct bearing, and exercising a controlling influence, upon medical science and experience.

The numerous abuses, false theories, and absurd dogmas existing, and which are in daily conflict, and intimately connected, with therapeutics and pharmacology, needs, at least, a passing notice. I desire, now, to say a few words, in regard to the multitudinous host of new remedies and preparations foisted upon the attention of the profession, by the Nichols, Tildens, Thayers, Duffields, Sargents, Merrills, Garrisons, and a host of others.

These gentlemen have been indefatigable in their efforts and have exhibited ingenuity and activity to an astonishing degree, in the magnitude of their preparations. In fact, so numerous and prolific are the various compounds offered for our inspection, that even to test them, we will be obliged to almost entirely abandon the good old time-honored theories of our fathers. Will this pay in the end? Ah! here, gentlemen, you have an ample field for reflection and also for the exercise of your patient and profound judgment. The astonishing and persistent versatility with which these learned gentlemen point out the wonderful remedial and curative properties of their compounds, is almost beyond conception, and gives ample opportunity for the exercise of our credulity.

While I deprecate their almost patent medicine style of oratory, in the recommendation of their various compounds, and while, also, I doubt the efficacy of many of their preparations, yet, in all candor, and to do full justice to these gentlemen, I am constrained to admit, that in their efforts, they have produced many meritorious and worthy combinations, eminently entitled to our confidence; and the only difficulty in the way, as it seems to me, is the ability to distinguish between the good and the worthless. And this, gentlemen, is no light task, when you take into consideration the endless list of alkaloids, res-

inoids, fluid extracts, concentrated preparations, syrups, elixirs, etc., etc.

In my experience as physician and druggist, I have been induced, through the energetic recommendations of the manufacturers, to give many of these preparations a trial. I have done so honestly and with a hope that they would meet the indication. The fluid extracts, for instance, I may safely say, I have tested most thoroughly, inasmuch as I was particularly anxious, as a druggist, that they should prove themselves to be all that was so confidently claimed for them; it being a great saving in time and labor in making syrups, tinctures, and infusions from them. After a careful and patient trial, in my experience, I cannot say that the results are entirely satisfactory. Indeed, I have, in a great measure, abandoned this method of preparing my tinctures and syrups, and have resorted once more, at the risk of being classed by these scientific gentlemen as an old fogy, to the old plan, as directed by the United States Dispensatory.

Now, as to the possibility of making and keeping up the standard of the fluid extracts to the required point, there cannot be a reasonable doubt. There are, I believe, one or two manufacturers who keep these preparations up to the standard, but do not, I am sorry to say, meet with the support due them. The fact that a preponderance of the fluid extracts now thrust upon the market are mere dilutions, scarcely representing the strength of common tinctures, has been clearly proven to be the case in New York, as well as in other places.

Here we recognize our old and steadfast enemy *adulteration*, who is ever ready and always active in his exertions to pander to the diseased appetite of the public for cheap drugs. Our only remedy, then, is a steadfast and strict adherence to the pharmacopœia. How is this to be effected? I think it can be accomplished by giving attention to the following facts:—

In May, 1870, the next decennial convention of delegates from the incorporated medical and pharmaceutical bodies of the United States meets in Washington, for the purpose of taking the usual measures to effect the fifth revision of the pharma-

copœia. It is of great importance to both physicians and pharmaceutists that this revision should be wisely considered and thoroughly executed, so that the pharmacopœia may command the respect and recognition in practice, so necessary to its usefulness. In the absence of any legal power to compel the adoption of its formula, it is worthy of the earnest consideration of the medical profession and of all well-informed pharmaceutists, to devise some plan by which a more general recognition of its authority may be effected.

Now, the United States Dispensatory is to be found in every shop, yet, nevertheless, there is a disposition on the part of many to depart from officinal rules, when to obey them is more troublesome or more expensive than some short cut process, that they may have devised. This is especially apt to be the case in what are termed the galenical preparations, as extracts, fluid extracts, elixirs, syrups, etc., etc.; the deviation often so alters the appearance and composition of the results, as to cause doubt and distrust, on the part of well-informed physicians.

The first step toward a reform, in this matter, is to make the pharmacopœia, of 1870, as nearly perfect as possible. Let its formulas, especially those most certain to be used by the dispensing pharmaceutist, be marked for its simplicity and directness of their manipulations and for the excellence and attractive appearance of their results, when these qualities are not incompatible; always giving the preference to intrinsic rather than apparent value.

The second step must be taken by physicians, in their society capacity, chiefly—the American Medical Association is the medical body best able to exert a universal influence within our national boundaries. In promoting the practical recognition of the United States Pharmacopœia. That Association meets the same week, in the same city, with the Pharmacopœal Convention. And, now, united, North and South will be in the best condition to exert a lasting influence on the future standing of the pharmacopœia, by lending its entire influence in favor of officinal preparations, made by officinal formula. This may be done, first, by declaring its convictions in a few

well-drawn resolutions, directed to its members; and secondly, by urging forcibly on the attention of each of the subordinate State and County Medical Associations, to examine the edition, when published, through a competent committee, recommending their members to become acquainted with its officinal names and new preparations, and peremptorily refuse to prescribe A, B, and C's compounds, which profess to be better, until the officinal have been found wanting. It is often said that medical men are easily persuaded into using medical novelties; that advertising is the true secret of getting up the reputation of medicines among physicians.

This idea is so well recognized by manufacturers, that many instances occur of their publishing journals, at merely nominal prices, in order to introduce their products. It, therefore, appears to be true, however humilitating it may be to the medical profession, that many of its members are "led by the nose," as it were, through the agency of quick-witted advertisers, on the covers of medical journals, and in circulars and pamphlets. The remedy for this evil is better professional care, better acquaintance with the *materia medica*, better knowledge of the preparations of the pharmacopœia, by actual inspection, so as to be able to tell, as far as sensible properties permit, what their patients are getting.

We do not believe the possession and exercise of this knowledge, on the part of the physicians, will unfavorably influence legitimate pharmacy, but will increase the demand for regular preparations, at the expense of the many fancy novelties now inundating the shops.

It may seem that I am needlessly severe. It may be so; but it cannot be said that I have not given my vote to merit, uninfluenced by malice, prejudice, or from any selfish motives.

I am willing to concede to these energetic chemists and manufacturers all they deserve. I do not desire to be misconstrued in my remarks concerning their compounds.

They have taught us many valuable lessons: the elegance of many of their preparations is worthy of emulation, and have proven themselves to be, in many cases, a great blessing to the suffering.

If it were possible that they maintain strict integrity, as to strength and purity, and a steady adherence to their published formula, then, indeed, our confidence would not be misplaced and our faith more abiding. The great evil to be deplored is not the absence of knowledge or skill, or want of elegance of their compounds, but in the fact that many of the manufacturers lack that high and sterling integrity, so vital in the maintenance of purity and reliability in their preparations; and, I regret to say, that they too readily yield to the baneful influences by which they are surrounded—influences to which, in their lust for competency, they are too apt to succumb. Their great desire is to undersell their neighbors, to introduce something cheaper—this is the great source of the evil. The almost incessant clamor for cheap drugs, by everybody, is productive of, at least, one result, and that is, the desire to supply the want; and, you may rest assured, it is too often done. Does an agent from some new manufacturer make his advent into your place of business? his very first greeting is: "I have here a very nice article, I wish to present for your inspection: our facilities for manufacturing are such, that we can offer you this article at a much less cost or price than it has ever been offered before." Now, what are his facilities? I will tell you—they are, beyond all doubt, facilities for dilution—can you doubt this? Now, for instance, the article of ipecac, perfectly pure, has a market value; does any one offer it for less, you may safely conclude they are not doing a legitimate business. I might add numerous instances to substantiate this position, but it is not necessary. If we had time and space, we might also discuss the feasibility of many of the proposed laws now being introduced, and under discussion, by the pharmacists themselves, at their regular meetings—laws that ere long will, doubtless, be presented to our legislative bodies for enactment.

Now, gentlemen, whether we are willing or not to lend our aid to this much-needed reformation, nevertheless, the ball is in motion, and good will come of it.

I do not claim to be the pioneer in this movement; wiser heads than mine have long seen the urgent need for swift and

absolute reform. I have been in the drug business too long not to know, that the time and attention bestowed upon this matter by the medical profession will reward them richly.

They have the power, let them exercise it; encourage none but competent men, and, even here, give them to understand that you hold them to strict accountability for a correct rendition and interpretation of your prescriptions, and that you will in no event submit to any substitution or dilution, that may be made, in order to satisfy the demand of some parsimonious patient for a cheap compound.

Gentlemen, I might continue this subject to an indefinite length, but it were needless; you have all and every one, doubtless, given this matter ample consideration, long before this, at least, I would fain believe that such is the case.

And, now, gentlemen, in conclusion, I hope my remarks will meet with your hearty approval.

Let physicians act as a unit in this important matter, now that the pharmaceutists are fully alive to the necessity of improvement in therapeutical integrity.

Let your influence be such as to encourage and sustain them in their laudable undertaking. Avoid criminations and recriminations. Aid the worthy and condemn the unworthy. Let merit be sustained however humble the condition. By pursuing this course you will soon be satisfied as to the results.

Permit me to tender you my thanks for the kind, patient, and indulgent hearing you have given me, and to indulge the hope that I have not trespassed upon your valuable time, and, also, that we are upon the eve of a bright future. A future pregnant with research, industry, and patient investigation—a future of confidence, trust, and a just appreciation of the friendly and intimate relation that should exist between the physician and pharmaceutist.

J. W. BREWER, M.D.

Selections.

CONTRIBUTION TO THE STUDY OF CONGENITAL SYPHILIS.

By W. H. VAN BUREN, M.D., Professor of Principles of Surgery, with Diseases of Genito-Urinary Organs, Bellevue Hospital Medical College.

The scientific interest, always inspired by congenital syphilis, and its unsolved problems, arises from the grave necessity for accurate knowledge of the subject, which is daily felt by the physician in dealing with the tenderest interests of humanity. The serious and complex question as to the propriety of marriage, the best mode of rearing infected offspring, the chances of their ultimate and entire restoration to health, the remoter consequences of congenital poisoning, are amongst the many difficulties which are yet awaiting the positive solution that science requires. This result is to be attained, not by polemical discussion and criticism of disputed doctrines, but rather by striving to see clearly and to note truthfully the facts which are daily passing before our eyes, content to sacrifice personal predilections, and to leave the result to the future. It is not given to every man to generalize, certainly not to generalize correctly, from insufficient data. But there are few practising physicians who cannot furnish the details of some facts which have fallen within the scope of their own observation and experience, bearing upon these unsolved problems; and it is from such facts as these that the science of the future is to be built up—slowly and laboriously, perhaps, but surely and certainly.

In this spirit, I contribute the following history, which, although meagre in some of its details, I have endeavored to relate as accurately as the circumstances have permitted:—

At the age of 20, B. had chancre in Philadelphia, in the winter of 1854–55, for which he took mercury for three weeks, and was slightly ptyalized. The next year he had chancres in Florence. In the succeeding year he contracted gonorrhœa in Paris, which was followed by buboes in both groins, with suppuration on one side, and by warts. In the spring of 1857, he had chancre again, for which he took mercury for a month. In the autumn of 1857, he called upon me for an opinion as to the propriety of matrimony. The Florentine chancres had destroyed about one-half of the glans penis; and it was this deformity alone that occasioned the doubt in reference to which I was consulted, as I was told on enquiring as to the existence of any symptoms of constitutional syphilis. He had no anxiety on this score, having never been conscious of any secondary symptoms, and refused entirely to entertain the idea of constitutional infection, of which, indeed, he presented no external

evidence, being apparently in robust health. I decided that the deformity of the penis was no impediment to marriage, and he declined any further examination. After this he was not exposed to the risk of any new contagion. In August, 1858, he married a perfectly healthy party, never before married, and, at the end of nine months and seventeen days, his wife was delivered of a healthy female child, who is still living, and who has always enjoyed robust health.

In June, 1860, a second female child was born, with defective development of the brain and spinal cord. This child, as far as I can learn, never manifested any of the ordinary evidences of congenital syphilis. It showed a great deal of tenacity of life, although idiotic and paraplegic, and died at the age of five, from the consequences of whooping-cough.

In October, 1860, I was consulted in regard to the wife and the second child. The former, from the enjoyment of brilliant health, at the time of her marriage, had become gradually pale, weak, and emaciated, without obvious cause. She had nursed both of her children. I was unable to make out any symptoms of secondary syphilis, save a characteristic ulcer upon the side of the tongue, of at least six months' duration; she had also a gummy tumor, the size of a hickory nut, in the left LABIUM MAJUS. These symptoms disappeared, and her health rapidly improved under the use of the bi-chloride of mercury and the iodide of potassium, which were continued for more than a year, and pretty regularly, as far as I can learn, under the supervision of a highly intelligent physician, in a distant city.

In 1861, I was consulted by the husband for amblyopia, and referred him to my friend, Dr. Agnew, who recognized "ophthalmoscopic signs of RETINITIS SYPHILITICA, of a mild type, and distinct indelible retinal lesions, such as patches of proliferated tissue and atrophy." These were the first evidences of constitutional syphilis he had manifested. These syphilitic lesions were also complicated with those of AMBLYOPIA POTATORUM. He was advised to use the bi-chloride of mercury, which he did, somewhat irregularly, for several months, and, as I satisfied myself at a later period, with great benefit to his sight. This, indeed, he also recognised, for he resumed its use, subsequently, of his own accord, on several occasions.

In January, 1862, another child was born (a boy), who, as I learned from the family physician, in a letter dated April 9, 1862, "appeared quite healthy at birth, and continued so until three weeks ago, when an eruption made its appearance, complicated with excoriations around the mouth and nose, which gradually invaded the whole body, and was," in the writer's opinion, "decidedly syphilitic." He adds: "There are at present no marks of morbid action in the mother, but she has resumed the use of the corrosive sublimate, and is nursing the child." The boy was treated by the

hydarg. c. creta, for a few weeks, and the symptoms detailed above disappeared, but he remained pale and delicate. In February, 1866, the beginning of his fifth year, he began to suffer from nocturnal pains in both tibiæ, and this symptom was shortly followed by periostal swelling, involving about three inches of the subcutaneous surface of both bones. He was brought to me in the autumn of this year, when I verified these symptoms, and ascertained, also, that the boy had been affected by complete paraplegia, which had continued but for one day, on two different occasions, and that he habitually suffered from irritability of the bladder, requiring to be taken up two or three times every night. He had also frequent attacks of pain through the nose, at the base of the cranium, and elsewhere. I found enormous nodes on both shins, and another on the subcutaneous surface of the right ulna. He was pallid, irritable, dejected, easily fatigued, dainty and capricious in his appetite, and sleeping badly from nocturnal pains. No specific treatment had been employed since the first three months of his life.

The mother was in apparently perfect health, with an excellent color and robust appearance, and had been in this condition for three years. The first born daughter, whom I also saw at this time, was a model of health. The boy was subjected, at once, to the systematic treatment of cod liver oil and the iodide of potassium, in doses of two grains, afterwards doubled. All of his symptoms gradually disappeared within the month, and he left the city immensly improved in appearance and strength, some prominence of the tibiæ alone remaining. After this the remedies were employed irregularly, and he became more delicate again. At the period of second dentition, I learn from his dentist, in a letter dated October, 1869, that he found "unmistakable evidences of the disease upon his incisor teeth, the development of the enamel quite imperfect—in fact, what I call syphilitic teeth."

About this date, the father again came under my observation, suffering from irregular, nodulated, and tender shins, superficial ulcers at the angles of the mouth, a yellowish patch on one tonsil, and a circular scaly spot, as large as a sixpence, on one of his palms. He had been exposed to no new infection. These symptoms commenced to yield promptly to mixed treatment. His general health is vigorous.

I learn that another child was born to him in October, 1867, the mother's health having continued excellent up to this period, when an ovarian enlargement was detected, which led to a fatal complication in the form of peritonitis, some weeks after delivery. This child survives in excellent health, having shown no evidences whatever of disease. The boy, now seven years of age, is still delicate, suffering occasionally from pains in his legs.

In this history, a sound, healthy woman is married to a man of unusually vigorous constitution, certainly affected with the syphil-

itic diathesis, but not aware of it, and they have four children. The first is healthy, the second idiotic, the third syphilitic, the fourth healthy; the mother having acquired the disease, and anti-syphilitic treatment having been employed, by which she was apparently cured, the father showing evidences of the disease. The mother acquired the disease during the first pregnancy and lactation, and as the child is healthy, this contamination was probably an example of direct secondary contagion, the alternative being that she was poisoned by a child who has never shown any evidences of disease. The second child was born, both parents now suffering from the disease, with arrested development of the cerebro-spinal axis, but showing none of the ordinary evidences of congenital syphilis. Was this arrest of development due to the syphilitic poison?

A third child was born after both parties had been subjected to anti-syphilitic treatment, but apparently not to an extent to save their offspring from infection. The disease in this child, assisted by treatment, passed through its secondary stage, to reappear four years later in its tertiary form; and here it assumed that somewhat rare phase of infantile syphilis in which the osseous system is involved.* It is noticeable that in this child there has been no sign of scrofula.

After further perseverence in anti-syphilitic treatment, the mother seems to have passed through the tertiary stage of the disease, and, apparently, to have recovered her health entirely. The father, less steady in the use of remedies, is not so happy, having manifested, still later, advanced secondary symptoms, unmistakeable in character. Under these circumstances, another child, in all respects healthy, is born to them.

It is worthy of remark that the father, with no obvious signs of syphilis, or even of cachexia, communicates to the wife disease, with marked cachexia, which rapidly runs into its final stage and apparently gets well; the diathesis more firmly established in him, yet milder and more chronic in its subsequent manifestations, still persisting. Also, that the mother, with tertiary symptoms, gave birth to a son who had secondary symptoms, the father having not yet passed the secondary stage; and that his son had, subsequently, tertiary manifestations. Finally, that the mother had no abortion or miscarriage, and nursed all her children.—American Journal of Syphilography.

THE CLIMATE WHICH CURES CONSUMPTION.

A series of valuable articles have appeared in the Medical Times and Gazette, on the climate of the Peruvian Andes.

We will suppose our readers acquainted, to some extent at least,

*A case which I observed, in 1853, of congenital syphilis, involving the osseous system, has been recorded by my friend, Prof. Bumstead, in his excellent work on venereal diseases, p. 465.

with the recommendations which have been bestowed both on the Cordilleras of the Andes and on the plateaux of Mexico, of the cure of phthisis pulmonalis. In speaking of the last-named locality, Dr. Jourdanet strongly insists that this beneficial effect is altogether, or in greater part, due to elevation in soil, and not to the degree of latitude Dr. Smith, whose experience was gathered from Peru, expresses himself as follows:—"Incipient tuburcular phthisis, with more or less hæmoptysis, is one of the most common pulmonary affections known in Lima and other parts of the coast of Peru. * * It is a disease that is certainly cured by removing the patient from the coast to the open inland valley of Zanja, which runs from ten to twelve thousand feet above the sea level. * * This fact has been known and acted upon from time immemorial by the native inhabitants and physicians; and I have," says Dr. Smith, "sent patients from the capital to Zanja, in a very advanced state of phthisis, with open ulcerations and well-marked caverns in the lungs, and have seen them again, after the lapse of a little time, return to their homes free from fever, and with every appearance of the disease being arrested; but, in many instances, it would, after a protracted residence on the coast, again become necessary to return to the mountains, to prevent a recurrence of the disease." Dr. Scrivener expresses himself in the following terms:—"I have traversed these mountains on many occasions, and am therefore able to form an opinion of the salubrity of the climate, as also of that on the route from the Province of Cordova to the Pacific. All over this vast tract of land, that fatal enemy to man, the tubercular phthisis, so justly feared by the inhabitants of Lima and Buenos Ayres, is entirely unknown. During a residence of nearly ten years in different and widely spread districts of the whole country, I never saw nor heard, either directly or indirectly, through my intercourse with others, of the existence of that disease. In the mountains of Cordova, as well as on the Andine heights, the patient will find his disease alleviated and in time removed (let him come from what quarter of the globe he may), by the hand of nature. There pulmonary complaints are never known to originate, and there those who suffer from it, on the borders of the Parana and the river Plate, seek and find a permanent cure for their ailments, proceeding from all affections of the lungs. We would recommend," he further says, "the mountains of Cordova, to consumptive patients, in preference to the Andine heights of Bolivia, as being nearest the river Plate, and containing a greater variety of objects to divert the attention and amuse. The facility of transport, the shortness of the passage, combined with a well-founded hope of renovating the health, will be of themselves sufficient reasons for undertaking the journey. The mountains of Cordova are 4000 feet above the sea and about 800 miles from La Quiaca, the northern boundary of the Argentine Confederation, where commences the Bolivian territory; and here the Cordilleras of the Andes, or otherwise the Andine heights, are seen

in all their splendor and magnificence. Between the two territories, however, the journey is made by mules; there is no carriage road.

It behooves us next to inquire how far and with what facility the heights of Cordova are accessible to patients proceeding thither from Europe. Let us suppose all of war at an end, the distant echoes of which are now heard brokenly on the road, and the journey already adventured on. The passage from England to Buenos Ayres may be made in as short a period as 34 days. There are several lines of merchant steamers from London and Liverpool, as well as the Government vessels from Southampton and Bordeaux, which arrive at Buenos Ayres every month. From this port you embark in a steamer for the port of Rosairo, which is most beautifully situated on the banks of the river Parana, and is the finest port in the Argentine Confederation, at which you arrive in about 26 hours. From thence you take the Argentine Central Railway, and arrive at the city of Cordova upon the same day. Here commence the serraicas or mountainous districts, which extend to the valley of Rimac, comprising an area of about 1000 leagues. We believe," says our author, "that at no distant time a public establishment will be founded in the mountains of Cordova, for use of consumptive patients. Should this be the case, we can vouch that there will be no lack of visitors willing to support the establishment and anxious to aid it by their means, in exchange for the benefits they have received there. The natural grandeur and magnificence of the mountain scenery would also contribute in no small degree to the attractions of the place and the benefit of the invalids. The city of Cordova is situated in a deep valley, on the banks of a river, amidst the most varied and beautiful scenery. Ascending from the city to the mountains, the traveller finds every variety of climate, with a difference of temperature at every ascent. In these varieties of temperature he will be certain to find one that is suitable to his complaint and agreeable to himself. The tops and sides of the mountains are covered with trees and shrubs, and the soil of the valleys is rich and very fertile, producing Indian corn, wheat, barley, sundry fruits and vegetables, and whatever the husbandman may desire to cultivate. Cattle, horses, mules, with sheep, roam in great herds on most excellent pasture. Huarracos and other wild animals inhabit the mountains. The wool of the sheep is of superior quality, and highly prized in European markets. There are a great variety of trees in the plains, many of which are very lofty, and their branches form an agreeable shade, as well as add to the beauty of the scenery. The timber of these trees is of superior quality, well suited for the construction of houses and in the manufacture of furniture, etc. There are mines of gold, silver, copper, and iron; the latter is abundant and in good quality. There are also marble quarries, and the marble is very fine and of different colors; limestone of an extremely white nature is abundant—in short, there are few spots in the world where Nature has lavished such a variety of

animals, vegetables, and mineral productions as in the Province of Cordova.—Medical and Surgical Reporter.

Editorial.

MEDICAL ETHICS.

Omaha, Neb., *Jany. 10th, 1870.*

N. S. Davis, M.D.:

Dear Doctor:—I desire an opinion from some physician, acknowledged by the fraternity at large, in this country, to be a man of eminent ability, and one of the lights of our profession. When a private pupil of the late Dr. Alden March, of Albany, I first learned particularly of you; and as I often heard him speak of your ability and attainments, in the highest and most complimentary terms; and as you have been the recipient of the most distinguished honors the profession of our favored land could bestow, and have stood foremost and in front among the organizers and leaders of our great National Association, I feel that your opinion, if not conclusive, would be entitled to the greatest weight and the most serious consideration.

We have, in this city, a regularly and duly organized medical society. It is a respectable association, and a deep interest is felt in it by its members. It contains within the pale of its membership, nearly all of the members of the regular profession residing in town; and in it is embodied nearly all the experience and ability of the profession in this place. In accordance with custom, we have established a bill of prices or charges for professional services; one, we believe, in keeping with the labor we have to perform and the demands made upon us by the public, and justly demanded by the dignity and importance of our noble calling.

Now, there are regular practitioners of medicine in this city who have been invited to become members of our Society, but have failed or neglected to do so; and they assign as a cause of such failure or neglect the following reason: that a member-

ship in our Society would be pecuniarily detrimental to them; in other words, that by charging less for their services than our established rate of prices calls for, they hope to make inroads and encroachments upon our practice, and secure that patronage which would otherwise be ours. But when these gentlemen have under their treatment a difficult, serious case, they are quite ready to avail themselves, when a consultation is desired, of the advantages accruing from fellowship with members of our Society, who are, some of them, men of large experience; thus securing to themselves whatever of importance, weight, and prestige may attach to our organization. The code of medical ethics of the American Medical Association, I revere, as a patriot reveres the Constitution of our country; and I believe it is a safe, wise, and just policy for the faculty to strictly adhere to and scrupulously carry out its wholesome provisions. In consulting the Code, I find in Subdivision 1st, Art. 4th, which bears upon consultations, the following language:—"No intelligent regular practitioner, who is in good, moral, and professional standing in the place in which he resides, should be fastidiously excluded from fellowship, or his aid refused in consultation, when it is requested by the patient."

The question then arises: are these doctors in good professional standing and entitled to the benefits and advantages that may accrue from consultation with members of our Society? Are they consistent practitioners?

Medical societies are evidently instituted, not only to promote mutual improvement of the members, in the science and art of medicine and surgery, but also to protect the regular profession against the assaults, encroachments, and combinations of all forms of irregularity and charlatanism. Is there not embodied in the above case a species of irregularity? Shall we continue to consult with these physicians, if they refuse or neglect to become members of our Society, and continue to disregard our established rate of prices? Please answer at length, and greatly oblige. Yours truly,

GEO. TILDEN, M.D.

In answering the questions of our correspondent, we would

refer to Article 8, of the Second General Division of the Code of Ethics, which is as follows:—

"Some general rules should be adopted by the faculty in every town or district relative to *pecuniary acknowledgments* from their patients; and it should be deemed a point of honor to adhere to these rules, with as much uniformity as varying circumstances will admit."

While we do not think that any physician should be discarded from consultations or professional recognition, *merely* because he does not become a member of a medical society, when one exists in the place of his residence; yet if his neglect to become a member is acknowledged to be from a desire to charge less than the generally established rate of charges in his locality, his position, certainly, cannot be regarded as an honorable one in the profession. And if it be clearly ascertained that he habitually charges patients, able to pay, less than the rates agreed upon, and actually charged by a large majority of his professional brethren in the same town, it should be deemed sufficient evidence of dishonorable conduct to justify his exclusion from consultations and professional recognition. It is for the interest of every practitioner that there should be some generally acknowledged rate of charges within the circle of his practice. It is only by such generally acknowledged rate that he can legally enforce his own claims against any one of his patients. While medical societies should be cautious in establishing their rates of charging or fee-bills, not to make them such as to create the impression in the public mind, that their organization is simply a combination for exacting unreasonable compensation for services; yet when a reasonable rate of charging has been actually adopted by a fair majority of the active and honorable practitioners of any town or district, every physician practising in such town or district should consider himself honorably bound to regulate his charges in accordance with it. If any should persist in refusing to do so, we do not see how they could be regarded as "practitioners in good standing" in the profession.

Bogus Diplomas.—In the January number of the Examiner we published a notice of a "collegate agency," in Milwaukee, Wisconsin, which proposed to furnish diplomas from medical colleges and other educational institutions, to such as needed them, simply as a matter of merchandise.

Yesterday, we received from another correspondent a card of a similar character, headed "Collegiate Agency," and signed "Dr. A. J. Hale, 214 Jacoby Street, Philadelphia." Accompanying the card are three letters written by Dr. Hale to one of his correspondents.

In the first, he offers to furnish the diploma conferring the degree of M.D. for $80, and of A.M. for $50. In the second letter he puts down the price of the medical degree to $50, and urges his supposed applicant to send in his full name to be entered in the diploma at once.

The third letter is as follows:—

Philadelphia, Pa., *Nov. 23d, 1869.*

Dr. ———:—

Dear Sir:—Yours of 19th inst. to hand. Did not think it necessary to specify all the institutions conferring degrees. If you wish to apply to an Allopathic, I refer you to the Dean of one institution, "American University of Philadelphia," Prof. John Buchanan, Dean, 225 North 12th Street. If you wish to apply to an Eclectic School, "Eclectic Medical College of Pennsylvania," Prof. Jos. Sites, Dean, 514 Pine St., Phil. Both Schools regularly organized and chartered by the State Legislature, and honorable institutions. I refer you to the above-named gentlemen for any further information in regard to the Schools. Very respectfully,

A. J. HALE, M.D.
214 Jacoby St., Phil.

We think it quite evident that a systematic business of swindling, in the way of selling diplomas, has been carried on for some time in this country, with head-quarters at Philadelphia. The Milwaukee concern is probably only a branch. Is it not time that efficient steps were taken to put an end to this system of swindling?

Mortality for the Month of December, 1869:—

Accident, crushed	1	Delirium tremens	1	Lungs, congestion of	5
" by fall	3	" " and congestion of brain	1	" emphysema of	1
" fracture of skull	1	Diarrhœa	1	" hemorrhage of	1
" by machinery	1	" and convulsions	1	Manslaughter	2
" run over by street cars	1	" chronic	1	Measles	2
" scalded	2	Diphtheria	14	Meningitis	3
Abortion	1	" and epilepsy	1	" cerebro-spinal	2
Aneurism, aorta	1	Dropsy	3	" tubercular	4
Anasarca	1	" and pericarditis	1	Old age	5
Angina pectoris and biliary calculi	1	Dysentery	1	Ossification of ascending aorta	1
Apoplexy	7	Encephalitis	1	Ovarian tumor	1
Arachnitis	2	Enteritis	8	Paralysis of nervous centres	1
Ascitis	1	Epilepsy and delirium tremens	1	Peritonitis	2
Births, still	39	Erysipelas	4	" & abscess psoas	1
" premature	8	" of head and face	1	" inflammation of uterus	1
" tedious	1	" and rheumatism	1	" result of perforation of intest'ns	1
Bowels, inflammation	1	Fever, congestive	2	" following childbirth	1
" ulceration	1	" puerperal	5	Pleurisy	1
" inflammation, in con. of mucous hernia,	1	" congestion brain	1	Pneumonia	22
Brain congestion	3	" remittent	3	Pyæmia	1
" compression	2	" scarlet	44	Rectum, prolapsus of	1
" inflammation of	1	" " complications	11	Scald-head	1
" effusion in, and paralysis	1	" malignant	4	Scrofula	2
" softening of	3	" typhoid	9	Spine, inflammation of	1
Bronchitis	6	Gastritis	2	Stomach, cancer of	2
" and pleurisy	1	Groin, cancer of	1	Suicide poisoning	2
" chronic	2	Hemorrhage, internal	1	" shooting	2
" capillary	1	Heart, disease of	1	Syphilis	1
Catarrh	1	" paralysis of	1	" hereditary	1
Cholera infantum	1	" valvular disease	2	Tabes mesenterica,	9
Convulsions	47	Hepatitis	1	Teething	4
" puerperal	1	Hydrocephalus	8	Tetanus	1
Consumption	48	Inanition	10	Urine suppression of	1
" and syphilis	1	Intemperance	2	Uræmia	1
" fol'ng childbirth	1	" and exposure	1	Uterine hemorrhage	1
Cyanosis	1	Kidneys, Bright's disease of	4	Uterus, cancer of	2
Croup	25	" congestion of	2	Whooping-cough	3
" diphtheretic	2	Laryngitis	5	Unknown	1
" membranous	2	Liver, cancer of	1		
Cyanche, maligna	1	" " and ascitis	1	Total	438
Development deficient	1	" congestion of	2		
		" abscess of	1		

COMPARISON.

Deaths in Dec., 1869, 438 | Deaths in Dec., 1868, 375 | Increase, 63
Deaths in Nov, 1869, 490 | Decrease, 52

AGES.

Under 1	114	30 to 40	44	80 to 90	1
1 to 3	85	40 to 50	32	90 to 100	1
3 to 5	37	50 to 60	8	Unknown	3
5 to 10	35	60 to 70	19		
10 to 20	17	70 to 80	7	Total,	438
20 to 30	35				

Males, ----------253	Females, ----------185	Total, -------- 438
Single, ----------320	Married ----------118	Total, -------- 438
White, ----------434	Colored, ---------- 4	Total, -------- 438

NATIVITY.

Austria----------	1	England, ----------	8	Sweden, ----------	9
Bohemia, ----------	3	France,----------	2	Scotland, ----------	3
Canada, ----------	2	Germany,----------	65	Wales ----------	3
Chicago, Native,----	74	Ireland, ----------	32	Unknown, ---------	8
Chicago, Foreign,---	151	Norway, ----------	9		
U. S., other parts,---	64	Russia, ----------	1	Total, ----------	438
Denmark, ---------	3				

MORTALITY BY WARDS FOR THE MONTH.

Wards.	Mortality.	Pop. in 1868.	One death in
1---	7	9,094	1299
2---	25	13,074	523
3---	22	15,076	685¼
4---	16	17,796	1112¼
5---	27	16,033	593 4-5
6---	24	13,083	541
7---	28	25,492	910½
8---	32	15,813	522⅔
9---	30	19,297	643¼
10---	11	12,925	1175
11---	27	14,340	531
12---	50	17,485	349 2-3
13---	19	11,164	587½
14---	23	14,839	645⅙
15---	38	21,078	554 2-3
16---	17	15,465	909 2-3

Mortality.	
Accidents,----------	9
County Hospital, ----------	13
Immigrants,----------	1
Manslaughter, ----------	2
Mercy Hospital, ----------	2
St. Joseph Orphan Asylum,--------	9
Soldier's Home, ----------	1
Suicide,----------	4
Jewish Hospital,----------	1
Total,----------	438

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THE

CHICAGO MEDICAL EXAMINER.

N. S. DAVIS, M.D., EDITOR.

VOL. XI. MARCH, 1870. NO. 3.

Original Contributions.

ARTICLE VIII.

INFLAMMATION WITHIN THE ABDOMINAL CAVITY.

By F. K. BAILEY, M.D., Knoxville, Tenn.

I read with some interest, in the EXAMINER for October, Dr. Breed's case of ileitis, as well as Dr. McElroy's remarks upon the same. I was reminded of a case which came once under my own observation; and the notes, made at the time, are here presented, as found in an old case book.

I was called, Saturday night, March 11th, 1848, to visit a lady 43 years old, mother of nine children, and seven living.

On the Tuesday preceding, she had walked more than a mile and back, causing much fatigue. The menses had missed for seven weeks, till a few days ago, when a slight flow of coagulum came on. Whether she was pregnant or not was not determined. The health had not been good for some time, having felt colic pains, which were accompanied with constipation. She was able to be about the house when I called, but the pulse was 120 or more. Head free from pain. Tongue white at the edges and base, but was brown through the centre.

Complains of pain in the right hypochondrium, with tenderness, upon pressure, over the whole abdominal region. In the course of the night, in the ascending colon there was a slight

tumefaction. No action from the bowels for two or three days. Considerable nausea, with some vomiting. Under the impression that she had colic, various medicines, as suggested by the family, had been taken. With a view to allay pain and produce quiet, I gave opium in full doses, to be repeated every three or four hours, and applied a blister to the tumified spot. The extremities, which inclined to be cold, were to be kept warm.

Sunday 12th, 9 A.M. Found the stomach less irritable, but the pain and tenderness continued unrelieved.

Abdomen distended, and she complains of "wind in the stomach," as the principal item in her list of unpleasant feelings; and thinks if it could be thrown off, she would be better.

Ordered a dose of castor oil, and left with the understanding that I should visit her again at night. During the day, was informed that she was better, and concluded that the laxative had acted upon the bowels and removed the cause of trouble. I heard nothing more from her till Tuesday morning, when I was recalled.

Found the abdomen still distended and tender. There had been no alvine evacuation at all, but she had been able to sit up more or less during the two days previous. When I examined the case critically, there was no doubt that disease, in a stealthy manner, had steadily progressed, without any due appreciation of its being serious in its character, on the part of patient or the family, from Sunday till I called on Tuesday. There was little or no pain complained of, nor was it necessary to draw up the limbs in bed. The countenance was extremely anxious. Pulse feeble, very soft, and beating 160 times per minute. Occasional stercoraceous vomiting. Gave brandy freely, with hot applications to the extremities. Examined thoroughly to ascertain if there might not be strangulated hernia. Nothing of the kind had ever been noticed.

At noon, met Dr. Tillson, in consultation, and everything which seemed indicated was done to produce relief.

Vomiting became incessant, and the extremities were icy cold and of a deep livid appearance.

At four o'clock, the pulse became imperceptible. Vomiting constant, with eructations of gas. No pain at all, but incessant in asking for something to enable her to throw off the wind from the stomach.

I remained at the bedside during the entire night, and Wednesday morning only showed an aggravation of the morbid phenomena.

The extremities began to be of a purplish-red color, leaving a whiteness on pressure upon the skin.

Still no pain at all, though the whole abdomen had become enormously distended. The intellect remained perfectly clear, and there was absolute insomnia.

During the day, on Wednesday, the strength totally failed, or at least there was less inclination to move. No pulsation below the axilla, but the voice was clear, and she conversed freely with her numerous friends, till breathing ceased, at 11 o'clock P.M., and fully 30 hours after pulsation had ceased at the wrist.

Post mortem examination, 12 hours after death. Abdomen very much distended and exceedingly hard. Surface livid, particularly upon each side. On removing the anterior parieties, the omentum was found thickened, and upon its surface were found spots of ulceration, with patches containing pus. The peritoneal coat of the small intestines was extensively inflamed, and had become sphacelated in spots. The whole cavity was filled with serum, in which pus was found floating. The smell was so intolerable that it was found impossible to examine the large intestines, but the disorganization was equally evident in the lower portion of the cavity. The stomach was filled with flatus. The liver healthy.

What seemed remarkable, was the certainty that extensive disease had set in, while the patient could walk about and complain of but little pain. On Saturday night, when I first saw her, nothing but the frequent pulse indicated serious internal disease.

The only rational explanation of the uncommon features seen in this case, is the fact, that, at the time, there was an epidemic

of pernicious intermittent prevalent. Numerous cases were then occurring of congestion of the brain. That same epidemic influence undoubtedly modified this case.*

From the fact that tumefaction appeared along the ascending colon, it is probable that the inflammation first commenced at that point. The occasional attacks to which she had been subject for some years were, perhaps, referrible to the same point.

In about a year after, I was called to see a man about 30, strong and robust, as a common laborer. He told me that he had just been eating very heartily of roast pig, after the usual day's work.

The abdomen rapidly became distended, and nausea and vomiting incessant, but without any pain. Pulse 140, very small and feeble. The condition above mentioned came on in a few hours after he ceased work. It was impossible to procure a motion from the bowels, and stercoraceous vomiting soon set in. This man lived about 48 hours after the first attack; and during the latter half of the time, he constantly begged for something to eat. Hunger was his chief complaint in his last hours, and he died asking for food. *Post mortem* revealed a gangrenous condition of the intestines, with serous effusion. Owing to the terrible fetor, a detailed examination was impracticable.

Besides, I have distinctly in mind three other cases similar to those described. Two were girls, 8 and 14 years of age, and one a young man. There was no *post mortem* in either of them, but the symptoms were such as to indicate congestion and gangrene. It seems to me that such cases may properly be denominated as *apoplexy* of the abdominal organs involved. Apoplexy literally signifies *intensity of seizure*, and, in this sense, it certainly is applicable.

I have neither time nor inclination to philosophize upon *causes*, either remote or immediate, which will produce such morbid manifestations.

It is natural for practitioners to report their cases which

* An account of the epidemic alluded to may be found in the Transactions of the Illinois State Medical Society, for 1857, under Congestive Intermittents.

result favorably, but I have given some which not only caused great anxiety in my own mind, but produced some excitement at the time in the community. Some writer, whom I can not now call to mind, describes an "acute phlegmonous enteritis."

In those cases above described, the term congestion and gangrenous might be properly applied.

January 11th, 1870.

ARTICLE IX.

OVARIOTOMY—SEQUEL OF DR. RUSSELL'S CASE.

BY J. F. KELSEY, M.D.

The case to which I allude is that of a Mrs. Dearth, from whom Dr. R. removed a large ovarian tumor, in the month of December, 1868, which was duly reported in the CHICAGO MEDICAL EXAMINER, for March, 1869.

I saw her during the spring of 1869. Found her in comparative health. Examined the wound and found that it had not healed soundly up; that at two or three points where the large pedicle was embodied, there was fungoid growths, from the size of a pea to that of a good-sized bean, discharging a little saneous fluid. Ordered them to be cauterized with sulphate of copper and dressed with carbolic acid ointment, with the hopes of healing them up. During the months of May, June, and July, her health rapidly improved, gaining in strength and flesh until she resumed her household duties, and was able to walk half a mile to church, and back again, without over-fatigue. I saw her again the 1st of September, and learned that the wound had never entirely healed; that the morbid growths were increasing in size and numbers; abdomen tender; that about the 25th of August, she, while in the act of dipping water from a rain-trough, slipped, her person falling violently upon the edge of the trough; and, as she expressed herself, had not seen a well day since.

Sep. 16th. Called in great haste to see her, and found the following conditions present in her case. Countenance pale and anxious; lips thin and retracted; great emaciation of flesh; pulse quick and feeble; tongue clean but reder than usual; great pain in the region of the wound; bowels constipated; vomiting every few minutes a large amount of stercoraceous matters; abdomen tympanitic and tender. The wound had become a nodular mass of small tumors (15 to 20), from the size of a pea to that of a hen's egg. Interspersed around its margin, some three or four of them were isolated, from two to four inches from the margin of the wound into the walls of the abdomen.

Of course, the prognosis was unfavorable, and the treatment could be but palliative.

This state of things kept up to a greater or less degree until she died, November 3d, 1869, 10 months and 18 days from the time of operation. That she died of more or less peritoneal inflammation, and that mechanical injury was an exciting cause of that inflammation, is quite apparent. But upon closer examination, I shall attribute its pathology from a different standpoint, which, if correct, shows too plainly how a slight mistake may turn the scale of life, and, if not revealed, its ignorance would be buried with the dead.

It will be remembered by every assistant at the operation that there were three pedicles to the tumor; that the two small ones were materially different in their texture and appearance; that their origin were separate and distinct from the large one, being lower in the pelvis; that they were very vascular, requiring a firm application of the ligature to restrain hemorrhage; while the large one partook of the character of the tumor itself, without any disposition to hemorrhage whatever; that in its separation, it had the exact appearance of the walls of the tumor itself, full of deep sinuses, etc.; that its point of attachment extended from the sacro-vertebral angle, directly upward, a distance of three or four inches—a region not likely to be the true seat of the ovaries. Now, supposing that this had been a portion of the walls of the tumor and not of itself a true pedicle,

it being firmly adhered to the side of the spinal column, would it not readily maintain its vitality and engraft itself into the abdominal muscles, during the process of cicatrization? and, if so, would there not be an attempt to a reproduction of cell-growth, producing morbid changes of an amorphus character, even in the walls of the abdomen itself? Then, if we admit this to be the fact, as it appears to be in her case, we readily perceive the germs of destruction which in the end could but prove fatal, although her fall might have been an exciting cause to hasten her untimely death.

ARTICLE X.

BILIARY CALCULI—CONVULSIONS AND DEATH.

By J. A. BALLARD, M.D., Chicago, Ill.

The following case came under my observation in Dec., 1869, and I have thought it of sufficient interest to report:—

Was called to see the patient, a man 37 years of age, at 10 o'clock on the morning of the 25th. He was a strong, robust looking man, who had been much addicted to the use of alcoholic stimulants. I found him suffering slight pain, which he referred to the region of the stomach: the pain had been more severe, but had partially subsided. I prescribed tr. opii, in 25 drop doses. At 12.30 P.M., pain came on very severe; gave morph. sulph. in one-third-grain doses. Sharp pain came in paroxysms, with a dull, heavy pain in the intervals. At 2 o'clock the pain was so severe as to cause the patient to writhe and groan with agony. He exhibited considerable anxiety, and at times was a little delirious. Continued anodyne and applied warm fomentations to epigastric region, with the effect of relieving the pain in a few minutes.

After half an hour, left the patient feeling quite comfortable, and gave directions for continuing the morph. powders. Saw him again about 5 o'clock, and found that in my absence he had had two severe attacks of pain, and in the last went into con-

vulsions; there had been nausea, vomiting, and faintness, and now the patient was much prostrated; pain severe in epigastric region, shooting to the back and up to the right shoulder, these symptoms strongly indicating the passage of biliary calculi. I now gave chloroform, in half-drachm doses, and continued warm fomentations. Patient slept considerable during the night, but at times was delirious. *26th.* Patient is considerably under the influence of anodynes, and takes but little nourishment. Dull, heavy pain continues, with sharp pain at times, and more or less delirium.

Saw the patient at 9 o'clock P.M. He had just suffered for a few minutes from severe pain; still referred to the epigastrium. The patient was now quite delirious, and I saw that he was failing rapidly. Gave spirits amm. aromat., in drachm doses, and chloroform, 20 minims every hour and a-half, and ordered hot and stimulating applications to feet and legs. Patient grew more delirious, complaining of the pain at times, and rapidly sunk till 2 o'clock A.M., morning of the 27th, when he expired.

In the afternoon, assisted by Dr. Croskey, I made a *post mortem* examination. After laying open the subject, upon taking the gall-bladder in my hand, much to my satisfaction, I found that it contained calculi. Removing the bladder and laying it open disclosed to our eyes 25 biliary calculi; some of them five-eighths of an inch in diameter, and the smallest nearly two-eighths in diameter. Six of these calculi were lodged in the *cystic duct* and *ductus communis choledochus;* and so firmly were they impacted as to require considerable pressure to force them through the orifice into the duodenum. The gall-bladder was not distended with bile.

There was a large deposit of fat upon the subject. The walls of the heart were found to be in a state of fatty degeneration, at one point of the right ventricle, the muscular tissue not being thicker than a wafer, such as formerly used for sealing letters. The mucous membrane of the stomach was somewhat inflamed. These latter morbid conditions undoubtedly being due to the long-continued use of alcholic stimulants; and

to what extent the formation of the calculi was due to the same cause, by producing functional disorder of the liver, I am unable to say. The liver was of about normal size, perhaps a trifle larger, and slightly friable.

Original Translations.

OF THE POINT OF DEPARTURE IN THE SPINAL CORD, OF THE ESPECIAL CONDUCTORS WHICH CONTRACT THE MUSCLES IN EPILEPTIFORM CONVULSIONS.

By DR. BROWN-SÉQUARD.

Translated for the Examiner, from *Archives de Physiologie et Normale et Pathologique.*

I have shown in a previous article (*Archives*, Sept., 1869, p. 612), that the conductors controlling the voluntary movements are distinct from those which contract the muscles of the abdominal members in epileptic attacks. The facts I am about to relate afford additional proof of the accuracy of this conclusion; but they show, moreover, that the conductors capable of causing some convulsions originate in another portion of the spinal cord, than where the conductors of the voluntary movements are found.

If an incision is confined to one of the two posterior columns of the spinal nerve, at the level of the last dorsal vertibræ, of a Guinea-pig, when the animal becoming epileptic has an attack, some convulsions take place in the abdominal member of the injured side, and are more violent and prolonged there than elsewhere.

If a deeper incision is made in the posterior part of the spinal cord, comprizing, in addition to one of the posterior columns, a portion of the gray substance and of the lateral column of the same side, it is seen, after the epilepsy has reached its greatest intensity, that the convulsions disappear almost entirely in the abdominal muscles of the corresponding side, while the voluntary movement remains there without perceptible diminution.

If a still greater lesion is made, affecting nearly the entire lateral half of the spinal cord, the voluntary movement subsides considerably in the posterior member of the same side, and seems even, after a time, to disappear altogether, the convulsions disappearing there also, be it understood, completely.

If, upon the same animal two transverse sections are made, at the same level as in the preceding experiments, one upon one of the posterior columns, the other upon the anterior column and the anterior gray cornu of the same side, there will be seen (in cases where the remainder of the cord, of this side, is not perceptibly altered *), in the paroxysms of epilepsy, some quite strong convulsions, in the abdominal muscles of the injured side, while the voluntary movements are considerably diminished there.

Finally, if, as I have two examples before me, nearly one entire side, and, also, a great part of the other, half of the spinal cord is severed, leaving, meanwhile, among other intact parts, a considerable portion of the lateral cord,† it will be ascertained that the convulsions disappear in the abdominal muscles, on the side of the more extensive injury, while they occur with violence in the other abdominal muscles, both, however, retaining the voluntary movement in nearly the same degree.

These facts concur to establish, in an evident manner—

1st. That the conductors capable of causing some convulsions are distinct from those which control the voluntary movements.

2d. That the place of exit, of the first, is different from that of the second, in the spinal cord, and that the first are mainly situated in the lateral cord, and, perhaps, in the neighboring

* I have only succeeded once in making this experiment in a satisfactory manner; but the success, in this case, has been as complete and decisive as possible.

† Autopsy not having been made of the two animals subjected to this last experiment, I cannot indicate precisely the injury. Anæsthesia, which appeared complete, existed in the two abdominal members; the voluntary movements in these members are diminished, but regular, and the temperature preserves its normal degree.

gray substance, while the second are located principally in the gray and white anterior parts of this nervous centre.

REMARKS UPON A CAUSE OF ERROR, IN ESTIMATING THE DEGREE OF SENSIBILITY IN AFFECTIONS OF THE NERVE-CENTRES, AND, PARTICULARLY OF THE POSTERIOR COLUMNS OF THE SPINAL CORD.

By DR. BROWN-SÉQUARD.

Translated for the EXAMINER, from *Archives de Physiologie et Normale et Pathologique.*

The cause of error which I shall describe does not seem to be understood. It is, nevertheless, so frequently committed, that I think a delineation of it will be useful. Let us suppose, taking an example that will be comprehended more easily, perhaps, than any other, that one is about to examine a patient, with induration of one posterior column, occupying the entire extent of the dorso-lumbar region. The individual has ataxia of the abdominal member of the injured side. It is observed in studying the sensibility of this part, that the two points of the æsthesiometer are felt, the differences of temperature are perceived, and that tickling and painful sensations are resented, as much, or nearly as much as in the normal state. It is, therefore, concluded, that the different kinds of sensibility exist in him, without any alteration. This is conveying a great mistake; *indeed, the fact that the sensibility seems to be in the normal state, that is to say, is not augmented, suffices to show that it is in reality diminished in an apparent degree.*

I will explain myself—the induration of the posterior columns, like any other lesion of the cord, is a potent cause of hyperæsthesia, or the augmentation of the different kinds of sensibility (touch, tickling, pain, and temperature). If, then, the patient does not have *increased* and *keener* sensations of the different impressions made on the ataxic member, it is because he is affected by anæsthesia, in the same parts that are hyper-

æsthetic. If this sensibility seems to have preserved its normal degree, it is on account of this faculty losing all that it should have gained, if there had not been a cause of anæsthesia coëxisting with the cause of hyperæsthesia. It is, then, a mistake to say, the sensibility is normal, where it seems to be so only, and where it is known it ought to be augmented.

In all cases of affection of the nerve-centres, where the location of the injury is indicated, and where it is known by physiological data, or from the pathology, that hyperæsthesia should exist, if it is not found, we must conclude that anæsthesia exists, even when the different kinds of sensibility are in their normal degree; and, we must admit, that the two morbid alterations (anæsthesia and hyperæsthesia) compensate each other.*

* This localization of the induration is rare; I have only observed it in three cases. An error analogous to the preceding is frequently committed, in regard to the voluntary movement, in those who have ataxia, from induration of the posterior columns. Some involuntary spasmodic movements often combine themselves with the voluntary movements, giving them the appearance of a power, as great, and even greater, than that of the normal state; consequently, it is affirmed, there is no paralysis, when it really exists, and, frequently, in an appreciable degree.

The Clinic.

MERCY HOSPITAL.

CLINIC OF N. S. DAVIS, M.D., PROF. OF CLINICAL MEDICINE, ETC.

HYDROCEPHALUS.—The first case brought to the attention of the class, at a recent clinic, was a male child, 21 months old, presenting all the symptoms of chronic hydrocephalus, such as marked enlargement of the head, open condition of the fontanelles, weakness of the lower extremities, inability to stand on its feet, etc.

The mother stated that the child appeared healthy and well formed, until between four and six months old, when it was attacked with fever, accompanied by much heat in the head, hurried breathing, frequent and sudden startings, screeching,

and restlessness, but no general convulsions. These acute symptoms continued nearly two weeks, when the fever gradually declined, leaving the child, however, restless, and subject to starting and crying out in its sleep; its urine scanty; intestinal discharges often unnatural, and subject to occasional vomiting. In a few weeks its head was found to have increased in size, much out of proportion to the body, and the anterior fontanella more convex or full than natural. Its attention could not be fixed upon any object, and it made no attempt to stand on its feet when lifted to an upright position; although, when recumbent, it would move its lower extremities freely, and its tissues were generally well nourished. In this condition, the child was first brought to the hospital, three weeks since, and the class allowed to examine its condition and symptoms in detail. The diagnosis, so far as determining the existence of a considerable amount of serous effusion into the ventricles and on the surface of the brain, was easy; but whether such effusion was the result of simple, primary meningitis, degenerating into a chronic form, or whether it was accompanied by and dependant on tubercular deposits, in the arachnoid and pia-mater, was a question of more difficult solution.

From the absence of any tuberculous condition of the parents and the generally good condition of nutrition in the child, the opinion was expressed that the case was not complicated with tuberculosis. The indications for treatment were to leave the child comparatively quiet, feed it only fluid and easily assimilated food, carry it out in the open air when the weather is fair, and give it such medicine as is calculated to allay irritation in the cerebral membranes, and so far promote the action of the kidneys as to induce the gradual absorption of the fluid effused into the cavity of the cranium. To accomplish these purposes, the child, when first brought to the hospital, three weeks since, was put on the use of the following prescription:—

℞. Fl. Ext. Scutellaria, ---------- ℥ij.
Tinct. Digitalis, ---------- ℥ss.
Iodide Potassa, ---------- ℥ij.

Mix, and give 15 drops four times a day in sweetened water.

The mother had carried out the directions faithfully, and a favorable change is easily recognized. The quantity of urine has been much increased, the sleep is more quiet, the child more cheerful and disposed to notice playthings, the expression of countenance more intelligent, and the fontanella less prominent and perceptibly smaller. These changes afford just reason for hopes of a final recovery. The same treatment was continued.

Muscular and Bronchial Rheumatism. — This was a case of a laboring man, 21 years of age, admitted into the hospital about two weeks since, complaining of pain and soreness in the chest, frequent, harsh cough, with but little expectoration, and moderate fever. There were no physical signs of pneumonia; and the case was regarded as one of catarrhal irritation of the bronchial tubes, coupled with rheumatic soreness in the muscles of the chest and shoulders.

He was directed to take one teaspoonful of the following prescription every four hours:

℞. Hydrochlorate of Ammonia, ---------- ℥iij.
Tart. Ant. et Pot., ---------- 2 grs.
Sulph. Morph., ---------- 3 grs.
Syrup Liquorice, ---------- ℥iv.
Mix.

Under the influence of this, the cough ceased and the pains in the chest diminished; but in three or four days he began to complain of nausea, great weakness and soreness in the muscles of the thighs and calves of the legs, aggravated by motion.

The rhythm of the heart was natural, but the first sound was muffled or gruff, and the impulse increased.

The former prescription was omitted and the two following given instead:—

℞. Hydrochlorate of Ammonia, ---------- ℥iij.
Tinct. Aconite Root, ---------- ℥j.
Syrup Liquorice, ---------- ℥iv.
Mix. Give one teaspooful every six hours, in a little water.

℞. Bi-Carb. Soda, ---------- ℥ij.
Sub-Nit. Bismuth, ---------- ℥ij.

Mix. Divide 20 powders; one every six hours, alternately, with the other prescription; animal broth and milk for nourishment.

This treatment was continued three or four days, during which the cardiac sounds and impulse became more natural, the pulse slower and more soft, and the muscular soreness in the lower extremities less. But the countenance of the patient was depressed and anxious; the skin wet with a cold, stickey sweat; the tongue dry and red along the middle of the upper surface; and his bowels slightly relaxed, as though there was a typhoid tendency.

He was put on the use of a powder composed of sulph. quinine, 2 grs., and sub. nit. bismuth, 5 grs., each morning, noon, tea-time, and bed-time.

A decided improvement was observable in the condition of the skin, tongue, and countenance, the next day. Four days have since elapsed, and the improvement has continued, until at present, the patient appears to be convalescent. The Prof. spoke of several other cases of well-marked rheumatic fever, which had lately been under his care, in which, under the free use of alkaline salts, the rheumatic symptoms abated, but the tongue became dry in the middle, the skin cool and clammy, pulse quick and weak, with disgust for food and mental despondency, in which the combination of bismuth and quinine produced a rapid improvement, until convalescence was established.

Prurigo.—Mr. L., aged 25 years, had just been admitted into the hospital. His general health appeared good, but he had been for a considerable time excessively annoyed with an itching eruption on the skin. For three or four years it had made its appearance with the cold and wet weather of autumn, continued through the winter, and disappeared with the coming of warm weather in the spring. It shows most on the nates, inner and posterior part of the thighs, legs, and forearms. It is in the form of small, scattered elevations in the skin, only slightly reder than natural, and with no vescicle, or tendency to suppurate.

In other words, it consists of small, isolated papules; many of them having thin, black scabs on them, produced by the patient having torn them by scratching, until the blood started.

The itching in these cases is entirely disproportioned to the external appearances of disease.

It is increased by warmth, and is generally worst when the patient gets warm in bed; often making the night as restless as if the bed had been sprinkled with cowage or nettles. The fact that the disease makes its appearance in this patient uniformly in the autumn shows that it is dependant on the retention of some effete matter, that ought to be eliminated through the skin, but which is prevented by the influence of cold and damp on the surface. The disease is strictly papular, and is usually called prurigo. Cases of this kind are often very persistent, yielding but slowly to the influence of remedies. The treatment most likely to cure the present case, would be such as would first restore a free action of the skin and kidneys, until all retained effete matter had been eliminated; and then, perhaps, a cautious use of some arsenical preparation, for two or three weeks. The class were cautioned against the use of the latter preparations, empirically, for such cases, as they were capable of doing much mischief. This patient had, indeed, been using sulphur vapor-baths and liquor arsenicalis, until symptoms of œdema had supervened, before he came to the hospital; and yet without benefit. He was directed to take a warm alkaline bath every second day, and to apply to the itching surface the following ointment every night:—

℞. Iodide Potass, ---------- ʒj.
Simple Cerate, ---------- ʒiij.

Mix thoroughly.

Internally he was directed the following:—

℞. Vin. Colehici Sem., ---------- ʒj.
Acetis Potass, ---------- ʒss.
Syrupi Simplex, ---------- ʒj.
Aqua, ---------- ʒij.

Mix. Take a teaspoonful four times a day. Should the colehicum affect the bowels too much, half a drachm of camphorated tincture of opium can be added to each dose.

If after the ointment of iodide potassa has been used four or five nights, it is found to create too much irritation in the skin, as it sometimes does, it may be omitted and the following wash substituted in its place:—

℞. Bi-chloride Hydrg, ---------- 10 grs.
Aqua Camph.,---------- ℥viij.
Glycerine,---------- ℥ij.

Mix. Apply as a wash every night and morning. In most cases like this, the foregoing treatment will afford relief, in from ten days to two weeks.

SERVICE OF PROF. BYFORD, THURSDAY, FEB. 3, 1870.

Vesico-Vaginal Fistula.—Prof. W. H. Byford, after explaining the different kinds of fistulæ, called the attention of the class to Mrs. M. A., aged 23 years, from Wisconsin. She was married four years ago, and was confined about two years since. A midwife was in attendance, and allowed the child's head to remain three days impacted in the pelvis, before she would allow a physician to be called. The physician called was unable to remove the child by forceps; and, on consultation, craniotomy was resorted to. The impaction of the child's head caused a slough between the bladder and vagina, about two inches transversely by three-quarters in the centre; since which time the water has flowed continually through the vagina. The patient, having been etherized, was placed in position for the operation. This consisted in placing her on her side, hips elevated by pillows, knees drawn up, with head and shoulders bent forward. Sim's speculum was now introduced, and confided to the hands of an assistant, while another kept the patient sufficiently etherized. Each member of the class was shown the fistula, and their individual attention called to each subsequent part of the operation. All the instruments used have long handles. The Prof. proceeded to pare carefully the edges of the fistula, with the tenaculum and short-bladed and curved scissors. Two small sponges, in holders, were kept constantly washed, ready to mop up any blood, which was very little.

Nine interrupted silver wire sutures, about a quarter of an inch apart, and nearly the same distance from the free edge, were then introduced. A short, curved needle, armed with a silk thread ligature was used. It was introduced through the lips of the wound, by means of the porte-needle forceps, and drawn through; then the silver wire was attached to the thread and drawn through. These were held out of the way. The Prof. now took the two ends of each silver thread in the wire twister, and adjusted the lips of the wound, by means of the blunt-hook; then, with the aid of the adjustor, the wires were twisted until the lips of the wound were sufficiently in contact. Each suture was cut off about an half inch from the surface and bent over. The operation being now concluded, the patient was carried to bed and laid upon her side. A catheter was introduced into the bladder, to which a piece of rubber tubing had been previously attached. Through this, the urine trickled into a vessel for the purpose. An anodyne of 40 drops of laudanum had been given previous to the operation. No other anodynes were required. Tinct. ferri. chlor., in 15-drop doses, were given four times daily. A week after the operation, the wound looked well, no leakage having occurred. I may add, this is the sixth case operated on by the Prof. before the class.

Correspondence.

DIPLOMA VENDERS.—REPLY OF DR. T. WILLIAMS.

EDITOR CHICAGO MEDICAL EXAMINER:

Dear Sir:—My attention having been called to your article headed "Diploma Venders," and which has been copied into other medical journals, and calculated to injure me by conveying a false impression, I request you, as an act of simple justice, to publish the following explanation:

I have no authority to *confer degrees;* my charter does not grant any special privileges (being simply an act of incorpora-

tion for business purposes, purely medical). I have never claimed or exercised such privilege. There is no "imposition" about the business — no swindle. I am not a "Diploma Vender," having never sold, conferred, or offered to sell or confer any degree in my life. I claim that I have not been guilty of anything, in this connection, which any respectable and regular medical man might not do.

So much for what I do not do. Now, allow me to explain what I do offer to do—premising the remark that my collegiate agency is aside and distinct from the medical and other business of the institute.

The principal object of this agency is, not to confer degrees upon improper or incompetent persons, but to "give such information as is necessary, before entering upon a course of studies," etc., with a view "to taking *any* of the learned degrees;" in other words, to *secure students* for the different law, medical, theological, and other colleges for which I may act as agent, by selling them *scholarships* in the same; *not diplomas.* These are all regular, good schools, and the requirements for graduation in them are the usual ones.

"Many States having passed laws prohibiting physicians who are not graduates from practising medicine," etc., the necessity arises for them to qualify themselves according to the requirements of the law; and here is a chance for them to do so, either by receiving an honorary degree (if entitled to such an honor), or by attending a final course of lectures and graduating. Any of the respectable medical colleges will confer degrees upon physicians who, although they may not have attended two full courses of lectures, have had sufficient experience in the study and practice of medicine to compensate for the deficiency. Five years reputable practice, or one course of lectures and three years' reputable practice, are usually considered as equivalent to the usual two didactic courses of lectures. Many of our very best physicians in the West belong to this class; many having been in active practice for 15 or 20 years without having ever graduated. No one can doubt but that such a physician, in reality, is better qualified to receive

the degree of M.D. than three-fourths of the raw students, graduated at the end of their "second course."

On such cases, I simply act as the applicant's *attorney* before *any school* he may wish to graduate at. He furnishes me his credentials—say his tickets to first course, and certificates from other physicians as to his character, ability, and standing in the profession, length of time practising, etc. These, I simply lay before the faculty. If they think favorably of the application, they furnish him tickets for a course of lectures; he attends it or not as he pleases, so that he presents himself at commencement, passes examination, and receives his degree. There is nothing improper or irregular in all this, and no "imposition," because nobody is imposed upon or deceived.

In some instances where the case is clear that the physician is meritorious, an old and highly respected practitioner, for instance, an honorary degree may be conferred by the proper authorities, the examination being either merely *pro forma*, or dispensed with altogether.

Whether the colleges allowed me a commission for every scholarship I may sell for them, or whether I get a fee out of the applicant, for attending to the business, are mere private business matters which concern no one outside.

But as I have explained the nature of my agency, you will clearly perceive that your article does me an injustice which you are in honor bound to correct, as I have never, in any way, been a party to obtaining diplomas for any one not entitled to the same; and in the card you quote, I especially call your attention to the words "legitimately conferred." There is no skull-duggery about it, nor forgery of diplomas, nor abuse of the privilege of conferring them, nor anything of the kind—everything is fair, square, and legitimate. I should regret very much to have anything to do with anything that was not.

Yours truly, T. WILLIAMS, M.D.

KNOXVILLE, TENN., *Feb., 1870.*

PROFESSOR DAVIS:—The weather here during the last summer was hotter than usual and uncommonly dry.

During the hottest week the mercury stood as follows:—

Tuesday,	August	17th,	3	P.M.,	97
Wednesday,	"	18th,	3	"	99½
"	"	"	4	"	101
Thursday,	"	19th,	3	"	98
"	"	"	4	"	100
Friday,	"	20th,	3	"	100
Saturday,	"	21st,	1½	"	101
"	"	"	3	"	102
"	"	"	4	"	100

Excepting summer complaint among children, there was but little sickness during the summer, and the autumn months were unusually healthy. There have been several deaths from disease of the lungs, during the last nine months. Two of the victims were young men, who were healthy till since the war. They are the only cases occurring among the white population. It is among the blacks that pulmonary disease occurs most frequently, and many are the victims. In one family, three sisters have died since May last. The first was married and mother of one child. She began to cough in February, and in March had measles. When I first saw her, there was rapid softening at the lower portion of the left lung. There was pleuritic inflammation, which rendered it more painful; and from week to week, it was easy to trace the progress of the disorganization upwards. Large quantities of muco-purulent sputum was expectorated every morning, and dyspnœa was so distressing that she could not lie down at all. It seemed as if the morbid secretion was so abundant as to press constantly upon the bronchial tubes and cause suffocation, when she was in a recumbent posture. She died in May, and fully two-thirds of the lung had become destroyed. The second sister died in summer, with a less extent of disease, but of the same character.

The third was but 16 years old. She had measles in early spring and began to cough at once. In April, my attention

was particularly called to a diarrhœa which was difficult to control. The cough continued, and both lungs were diseased. There had also been suppression of the menses since January. I did not visit her regularly, but saw her at times, while attending upon other patients in the vicinity. In July, was called on account of an indolent swelling of the right mamma, and found that she was pregnant.

The poor girl gave a look of injured innocence when I called her attention to the rotundity and increased size in the hypogastrium, and suggested that in her social relations she had been somewhat erratic. Emaciation had increased, and her cough was incessant. In September, I was called to attend her in labor, but other engagements prevented. I learned that she had a child, which is now living, but she died in December. I relate the above cases to show how rapidly the colored race is vanishing away. They were mulattoes, and their mother is full-blooded African. Their paternity must have been nearly, if not wholly Anglo-Saxon.

The unmixed blacks seldom have consumption, but frequently die of acute pneumonia. I am inclined to think that at least half of the children die before they are three years old. Very many are of uncertain parentage, which fact may account for the high rate of mortality.

There is a want of true parental affection, which we all know is necessary, in order that the wants of helpless infants may be anticipated and supplied. There are many questions naturally suggested in contemplating the condition, both present and future, of a race so recently released from bondage to freedom, which should interest the social and political economist. Matters of more vital importance to the colored race than the elective franchise will soon be crowded upon public consideration.

A case of tetanus occurred here last summer. I did not see the patient, and the following details were given to me by Dr. A. S. Nichole, who was in attendance in connection with others.

July 6th, 1869. Thomas Steele, aged 24, American, and acting as brakeman on the E. Tennessee and Georgia Railroad, was injured by being thrown from a car.

The lesion was a flesh wound or contusion upon the outer aspect of the left lower extremity, extending from the middle third of the thigh to a point three inches below the knee. One small artery was torn across, requiring ligation. Bones uninjured, and the articulation intact. The first dressings were adhesive straps and cold water. On the 12th, it was noticed that as the dressings were changed, there was œdema in the extremity, below the point of injury.

Granulations appeared healthy. On the 15th, twitching of the tensor muscles commenced, giving great pain, at intervals of two or three minutes. At this time, there was no difficulty in deglutition and no stiffness of the neck. Bromide potassii and brom. ammonia were given with no effect. Whiskey and beef-tea administered; morphine, hypodermically, at short intervals.

On the night of the 17th, complained of feeling tired, while eating. *18th.* Difficulty of protruding the tongue and opening the jaws. Dysphagia, with spasm of the whole body, at each accession of pain in the limb. Spasms opisthotonic, and muscles of abdomen tense. Aconite internally and externally administered.

19th. Dysphagia increasing. Bromide potassii given freely, with ergot, to diminish congestion of the spinal cord, as suggested by Brown-Séquard. Calabar bean could not be obtained. Death occurred on the 22d.

The weather, thus far, this winter, has been mild. The mercury one morning in first week in January went down to 14° above. It is seldom that we find it below 32° The principal diseases have been those of a catarrhal character. It is common to find a person complaining of pain in the frontal region, attended with irritation of the nasal and pharyngeal mucous membranes, gradually invading the larynx and bronchial tubes. When there is much febrile disturbance, the functions of the kidneys and skin are deranged, the secretions being very scanty. Active anti phlogistic treatment is called for. Absence of local malarious influence renders tonics seldom called for.

The effects of a short residence in a malarial region are shown in the following:—The parents of one of the infants alluded to in my remarks upon the bromides, in the January EXAMINER, removed in October to Southern Illinois. The change upon the child was favorable, as it soon became very fleshy.

After a stay of two months they concluded to return.

They had been here about one month when both mother and child had all the characteristic symptoms of intermittent. The chills were well-defined in the child, and entire freedom from fever after the usual time. It was only upon the recurrence of a second chill that its malarial character was suggested; and a few grains of quinine soon effected a cure.

The mother had a decided chill, with fever following, and attended with the soreness upon the lips.

Quinine was given, and no return of chills occurred. This was her first visit to a malarial region, being a native of this State. The father had lived in the North-West till the war, and, consequently, was not so susceptible.

But I have exceeded already my design in the length of this communication.

F. K. BAILEY, M.D.

Selections.

A LECTURE ON SOME POINTS IN THE CLINICAL HISTORY AND PATHOGENY OF LOCOMOTOR ATAXY.

BY MEREDITH CLYMER, M.D.

Read before the Medical Society of the County of New York, at the Meeting held January 3, 1870.

During the past few years, a handful of workers have investigated with zeal, care, and intelligence, the group of clinical facts familiar to us by the name of locomotor ataxy. Still there is much conflict of opinion concerning its nature, and many of the theoretical imaginings, though ingenious, are

unsatisfying, and would seem to need modification or correction. The invitation of the President of the Society gives me the privilege of offering for your consideration some points in the clinical history and pathogeny of this curious disorder. The purpose of these fragmentary remarks is to get an expression of views on these difficult and unsolved problems, and to invite a discussion which may assist towards their right understanding.

The name locomotor ataxy is not a happy one; it sets forth a single objective symptom — motorial inco-ordination — which is not prominent, even if present, in the early stages, and is not proper to this disease, for it is met with in many other and very various affections. In these instances, however, muscular ataxy is an occasional and not an inevitable sign, often quite transitory, and joined with other phenomena, each series unlike the other, and agreeing respectively with the particular intrinsic lesion. But in the disease we are considering, it necessarily appears, sooner or later, in its course, and is constantly linked with certain morbid expressions having a regular sequence and pathogenetic interdependence, and is, moreover, always related to the same material cause. Few maladies have a more emphatic natural history than locomotor ataxy, or a better right to be recognized as a distinct pathological species.

Let me briefly define motorial ataxy or asynergia: A centric nervous disease, manifested by certain sensory and motory disorders, as, sight troubles, transitory or permanent; sudden violent darting, or tearing, or burning, or boring pains, most often in the lower limbs, with other perversions of sensation; impaired adjustment in the several groups of muscles which naturally work harmoniously together in such acts as standing, walking, and handling; muscular power often but slightly lessened; sexual appetite and ability frequently impaired or abolished; nearly always progressive in its course; the anatomical characters being sclerosis of the posterior columns, disintegration of the gray substance of the posterior cornua, of the spinal cord, with atrophy of the posterior nerve-roots, and sometimes structural change in the cranial nerves, chiefly the second, third, and sixth.

Usually an ataxic seeks medical advice in one of two conditions: (1.) He finds that he gets easily tired after walking, standing, or going up stairs; the fatigue is more rapid and greater from standing than from walking, for many who can still get over a good deal of ground comfortably cannot remain standing for a few minutes, the sense of weariness, being so in-

tolerable. Locomotion may be yet natural in its harmony and succession, whilst the attention is fixed on it; but it is no longer merely a mechanical act; unless the limbs are watched the movements lack their accustomed precision, and are awkward and blundering. Walking, when once begun, commonly ceases to be a cerebral act; but here its continuance requires incessant volitional mediation, cerebral innervation coming in to supplement diminished spinal innervation. The patient, too, will probably complain of not being sure of his legs, of his feet feeling at times as if weighted, of their not "taking hold of the ground," of frequent stumbling, of losing balance on turning round quickly, of some stiffness about his joints, and of difficulty in starting off in his walk. Bid him shut his eyes, and stand with his feet brought together, and he will probably totter; or make him walk with the eyes closed, and he may reel and stagger, or even topple over. At this time the gait is generally peculiar — the steps short and quick, the heel striking the ground first; the characteristic hitchy, catching-up, stamping gait generally comes later, with plantar anæsthesia, giving the feeling as if the soles of the shoes were of wood or sponge, or that the individual was walking through sand, or loose grain, or straw. (2.) In the other instance, the unsteadiness of gait has been first noticed towards evening, or in the dark; there is consciousness of a want of proper control of the legs; the way is felt with hesitation, in perpetual fear of falling over, and there is unwillingness to go about even in familiar places without a light.

Now, in these cases there will be most likely a history of ocular troubles, as weakness of sight, defective visual accommodation, or strabismus, or ptosis, or double vision; they may be still present, more or less persistent from their outset, or occasional and recurrent, or may have passed away. Rheumatic aches and neuralgic pains, flying or fixed, will almost certainly have been felt. These pains are very significant; mobile and intermitting, they shoot like lightning or an electric shock through a limb, or the face, or scalp, or some part of the trunk, or genital organs; or they may be only or chiefly in one limb, flashing upwards through it, or localized in some part of it, as the sole of the foot, in which case they are boring or gnawing, or pressing, coming on in spells, lasting for hours or even days, and recurring weekly or monthly. They are described sometimes by patients as the toothache in the legs. Sometimes they are fixed, very circumscribed, constant, and agonizing, and hinder sleep (tabes dolorosa of Remak).

The sight-troubles and the limb pains are rarely though at this time connected by the patient with his limb-weariness or his unsteady gait, particularly in the dark; these latter occupy his mind, and make him uneasy from mistrust of threatening palsy.

My own observations have led me to believe that there is a *formative stage* of this disease, betokened by certain symptoms, and which, so far as I know, has not been noticed by writers. They happen some time before the usual initial ocular disturbances, or the pain-spells, or unequivocal unsteadiness of gait, or indeed any of the symptoms usually attributed to the outset of the malady, and are mostly shown in the upper segments of the body. They consist of slight motory deficiences and sensory annoyances, both often so insignificant as to escape the attention of their subject or his intimates. There will be awkwardness in handling small objects, as picking up a pin, or match, or putting a lead in a pencil, tying a knot, fastening a cravat; the fingers are clumsy and not alert; things are not grasped, held, and taken up with wonted nimbleness and dexterity; they are no sooner seized and lifted than they are dropped; unpleasant sensations are felt in the skin of the face, as the tip of the nose, small areas in the temples, cheeks, lips, and are spoken of as tinglings, crawlings, as if an insect had alighted upon or was moving over the part; there may be occasional deep-seated quiverings of the flesh, particularly in the eyelids, or lips, or cheek;* a feeling of numbness, confined to a small space in one of the lips, or of being suddenly touched there by something very hot or very cold, with a tendency to fall asleep in the arms and legs, when sitting or lying down, giving the sensation of "pins and needles," particularly in the fingers and toes. Some indecision in the motions of both the upper and lower extremities may exist, with occasionally a notion of their being weighted, stiffness of the joints, effort in rising from a seat, weariness after small muscular exertions, with steady aching in the nape of the neck and small of the back, and lessened sexual aptitude. Neuralgia may be occasional, but the ocular disturbances are either wanting or only manifest in the form of defective visual accommodation, or con-

*Since this paper was read, the writer has been consulted by an ataxic in whom the first symptom noticed was an unpleasant feeling of formication, numbness, and twitchings in small areas of the temples. His physician told him that it came "from his stomach, general running down of his system, and smoking cigars." Three months afterwards he "began to lose his hold of the ground."

tracted pupils. If experience shall confirm the constancy of an inceptive stage with certain signs, we may perhaps be able to meet this insiduous disease at a period before serious structural disorganization has taken place, and successfully check its subtle advances.

The *integrity of muscular power* has been insisted on by Duchenne, C. B. Radcliffe, and others, and held to be a diacritic feature. I believe with Oppolzer, Brown-Séquard, Lockhart Clarke, Benedikt, and Allbutt, that it is always more or less impaired, and that, too, from the beginning. Close attention will show some degree of muscular weakness as one of the earliest phenomena, but in such small degree as to be overlooked unless carefully inquired for. It is true that in very many cases of the developed disease the patient, when lying or sitting, can execute the ordinary limb-motions with promptness and energy; he may lift even heavy weights attached to his feet, and will resist with much apparent show of strength all attempts to bend or straighten his limbs against his will by another; but here, as in walking, extraordinary cerebral interference comes to the aid of lessened spinal ability, and observers have been misled by overlooking this circumstance, as well as by faulty modes of investigation. The real state of motor force in the limbs is properly measured by the degree of perfectness of their quasi-automatic functions, and this is palpably damaged from the outset. The duration of each act of contraction on the part of any muscle, or group of muscles, interested in the given movement is perceptibly shortened, and this accounts for the constant weariness and easily induced fatigue after moderate exercise; and from the necessary lengthened cerebral action results the great exhaustion after any effort demanding large or sustained expenditure of muscular force. Long walks or fitful feats of strength are possible, but these are extraordinary volitional acts, tax severely the brain, are followed by great nerve depression, and are no proper test of the actual amount of muscular power. Another source of error has lately been mentioned by Dr. Brown-Séquard. He writes: "In ataxics, from lesions of the posterior columns of the cord, involuntary spasmodic movements are often mixed with those purely volitional, thus giving to these the appearance of as much, or even more power, as in the natural state; from which follows the assertion that there is no palsy, whilst there really is, and that too often in a notable degree." (Annales de Physiologie, Nor. et Path., t. ii., p. 761, 1869.)

Dr. Jaccoud insists that when the ataxy is well marked,

reflex motility will, as a rule, be found heightened, and that this excess lasts to an advanced stage. This, as a general statement, will, I think, be found incorrect, and that in most cases reflex action is really weakened. But now and then we see instances where it is terribly increased. Let two ataxics be requested to lie down, and each one to put out a leg. In one the act will be done naturally, or nearly so; the limb is practically controlled by the will; the movement stops at the time desired; while the leg of the other will be thrown out, probably striking a bystander, and begin to jerk and jump about, with no ability on the part of the patient to check its extravagance.* In other cases, like saltatory spells may be brought on by rubbing or tickling the soles of the feet, or by applying cold to the limb, or sometimes by only uncovering it, and occasionally they come on without seeming provocation. They are generally attended with anxiety, and back and limb-pains. Jerkings of the lower extremities, when about falling asleep, are often noticed by ataxics, and one of my patients complained of having had several times general convulsive movements, producing the sensation as if he were suddenly tossed up from a spring-board.

It was first mentioned by Jaccoud, and about the same time by Benedikt, that many ataxics, whilst standing, are subject to involuntary intermittent muscular contractions, particularly of the flexors of the foot, the tendons becoming very prominent on the dorsum, and sometimes so vigorous as to lift the foot from the ground on the heel. This, and the fibrillary twitchings already alluded to, may be referred to the same class of reflex phenomena.

In a large majority of cases there is a gradual *decay of sexual feeling* in both sexes, and which goes on to total extinction. But there are some remarkable instances of extraordinary exaltation both of desire and capacity in the first stage of the disease. Trosseau has related some of these exceptional examples in the male, and Dr. Bouchard tells of a woman in whom, at the outset of the affection, sexual desire became so imperious as to require frequent satisfaction during the day as well as the night; and this state was followed by complete anaphrodisia, coition causing no special sensation. In males, and coincident with loss of desire, or impotency, or hasty sem-

* In these phenomena we have what Dr. Brown-Séquard has called *spinal epilepsy*, which includes those cases of spasms, clonic or tonic, of the lower limbs, which are pathogenetically in direct relation to some lesion of the spinal cord causing exaggerated reflex excitability.

inal discharges, nocturnal emissions are common, and females are liable to dreams with voluptuous sensations. In these conditions I have always found in the male a marked fall in the temperature of the genital organs, and often to a degree readily appreciable by the hand.

The *pulse-rate* is almost constantly quickened in ataxics, and it is important to bear this in mind when deciding on the nature of any intercurrent disorder. In eight cases Dr. Charcot found the mean pulse-rate to range from 90 to 100, and in some it has between 100 to 124. There is no corresponding increase in the body-heat. Eulenberg's sphygmographic observations show considerable lessening of arterial tension.

I will now briefly mention some epiphenomena which happen more or less often in the course of locomotor ataxy, and which have been studied only quite recently. They have all peculiar traits, and seem to have a direct pathogenetic relation to the disorder.

The *stomach troubles* have been generally overlooked by writers; they have special characters, and are not infrequently intercurrent in the developed disease, though sometimes met with at the outset. These gastric attacks begin with sense of weight and darting pains in the epigastrium, with general abdominal fulness. In a day or so, sometimes sooner, there are hiccup and nausea, followed by repeated retchings and vomitings, the matters thrown up being food, bile, acid, etc. During these spells, the limb-pains are worse, and sharp pains dart from the pubes towards the stomach.

Heart troubles may accompany these gastric paroxysms; they consist of sudden and violent palpitations, with painful spasms and a feeling of constriction in the cardiac region. They commonly last but a short time, and during their continuance no *bruit de souffle* or other physical sign is heard.

Very lately Dr. Fereol has published some interesting observations of certain *laryngo-bronchial symptoms* to which ataxics are liable. They will be seized without warning with a spasmodic cough, threatening suffocation, lasting for a few minutes, and then suddenly ceasing, and neither accompanied nor followed by expectoration. I have long remarked that when an ataxic has an ordinary cold, his cough-spells are very distressing, convulsive, and obstinate, with a whistling through the larynx, and sometimes crowing back-draughts.

Now, in these several organic disturbances the pathogenetic predominance of the nervous element is apparent, and the interesting question naturally suggests itself, what part the sympathetic plays in their production and mechanism.

Drs. Charcot and Ball, of Paris, have lately investigated the symptoms and nature of the curious *joint affection* which happens in the beginning of the second stage of the disease, or during the interval of the first and second stages, and which hitherto had been regarded as a rheumatic and accidental complication. They have attempted, however, to show that it has no kinship with rheumatism, and is directly connected with the original disease. It occurs without any premonitory indications, the limb suddenly swelling, the tumefaction being more marked about the implicated joint. There is neither redness nor pain, nor constitutional disturbance,* nor increased body-heat. The general puffiness is not like ordinary œdema, for there is no pitting on pressure, but, on the contrary, rather resistance. The effusion into the articulation (hydrarthrosis) is large and constant. The knee-joint would seem to be the site of election, with nearly always marked unilateral predominance. In the eighteen observations collected by Dr. Ball the ankle-joint was not once involved, though in Case 2 it is stated that the patient had once sprained his ankle and had never been able to use it perfectly since, with the remark that though at the time it had been regarded as an accident resulting from weakness of the limb, it might have been perhaps a primary manifestation of spinal arthropathy. In one of my ataxics hydrarthrosis of the ankle-joint preceded immediately the outbreak of the motorial troubles. The patient had had severe facial neuralgia and lessened sexual aptitude for some time, when his ankle-joint suddenly became swollen, without redness or pain; this hindered walking, and on applying to his physician he was told that it was a sprain, and treated accordingly; the local symptoms soon went away, but immediately afterwards he had a cottony feeling in the soles of his feet, and his gait became unstable.

The duration of the joint-affection is uncertain; it may disappear after a few weeks, leaving no ill effects; or it may last for months; and sometimes the morbid processus is indefinitely prolonged leaving permanent deformities. When recovery is apparently rapid, there is always great risk of a relapse. The resulting changes in the end of the bones forming the joint have been described by the opposing terms hypertrophy and atrophy; and this double pathological condition is especially well marked in the knee-joint. Ossific tumors are developed, while the articular surfaces seem to undergo rapid destruction. In the only case in which there was an autopsy, the cartilages had disappeared, the bony substance itself was, as it were, eaten

* There was one exception in the eighteen cases collected by Ball.

away, and small osseous excrescences surrounded the joint. As a result of the atrophy of the articular surfaces, irreducible dislocations are often noticed. The effused fluid is not confined to the synovial sac, but extends to the neighboring bursæ, it is in large quantity, citron-colored, serous, and contains neither pus, nor blood, nor albuminous flocculi. Well-marked anatomical differences separate this form of arthropathy from certain other articular affections which have some resemblance to it, but which are in fact very distinct. In spinal arthropathy the peculiar vegetations and phosphatic incrustations met with in chronic arthritis are absent, as well as the augmentation and flattening of the articular surfaces. In the joint-affections following paraplegia, we have the effects of prolonged immobility; the structure of the bones is modified, and the polish of the surfaces is wanting, but the peculiar atrophy is not seen. It has a certain resemblance to the dry caries of Volkmann: for in this, too, there is rapid atrophy of the articular surfaces; but the serious changes in the bony tissue itself, producing the honey-combed cavities lined by a firmly adherent, delicate granulated membrane, which is the anatomical character of *caries sicca*, is not seen in spinal arthropathy. It was, as I have said, for a long while looked on as of rheumatic origin and constitution; but the absence of local pain and redness, and of fever, with natural body temperature, would alone seem to be conclusive of the non-identity of the two affections. Rheumatism, too, is disposed to be migratory, and may invade several articulations successively, whilst in ataxic arthropathy there is a tendency to localization in one joint, or at most in two. When it follows a blow or fall on the joint, which it may do, for ataxics are liable to such accidents, an error may be made; but the evolution of the symptoms is so different from those which usually follow local contusions, together with the sudden general swelling of the limb, that a mistake will be soon corrected. The great deformity of the joint at an advanced period of the arthropathy might suggest white swelling, particularly if the patient has been long confined to bed from the principal disease, and here the diagnosis may offer some difficulty. The antecedents of the case must be taken into consideration as the well as the other concomitant symptoms. By recognizing true nature of the affection, Dr. Ball was able to save a patient the loss of a limb, which the surgeon of the hospital had decided on. It is possible to confound ataxic arthropathy of the shoulder-joint with a long-standing, unreduced dislocation; but here there is found under the skin, not the head of the humerus,

but more or less complete destruction of the head of the bone.

I can only now allude to the possible *coexistence of locomotor ataxy* and *progressive muscular atrophy*. Cruveilhier, Virchow, Dumenil, and Lockhart Clarke have published cases where the two affections were conjoined. It seems to be of rare occurrence, but, as Clarke remarks, when the two diseases are coincident, and the muscular atrophy is extensive, the proper characters of locomotor ataxy may be so modified or obscured as to be either entirely overlooked, or considered as referrible to the former disease. On the other hand, there are certain cases of muscular atrophy that at an early stage of the disease might be mistaken for locomotor ataxy; as when wasting of the muscles affects the lower extremities, and though at first scarcely perceptible to the eye, it may yet be sufficient to produce unsteadiness of gait. The researches of Valentiner, Luys, Dumenil, of Rouen, Schuppel, Clarke, Hayem, and Charcot seem to connect progressive muscular atrophy with a peculiar alteration of the cells of the gray substance of the anterior cornua of the cord. If this be so, it is easy to understand that the morbid processus which determines these lesions, originally limited to the gray substance, or, more exactly speaking, to certain elements of this substance, may by gradual encroachment reach the white columns; or, conversely, that the morbid change in the white columns, when primarily affected, may extend to the central gray substance. Now, in the former case, the symptoms of locomotor ataxy would come to be added to the pre-existing phenomena of progressive muscular atrophy; whilst in the second, the amyotrophy, on the contrary, would only appear consecutively as a complication.

Each form of *spinal sclerosis* shows a pretty constant preference for given districts of the cord, yet occasionally the several varieties are found commingled. Cruveilhier published, nearly thirty years ago, a case of multilocular sclerosis of the cord (sclerose en plaques disseminees of Charcot), associated with the special structural alterations of the posterior columns proper to locomotor ataxy, under the caption of "Incomplete paraplegia of motion and sensation, with chronic St. Vitus' dance; extensive gray degeneration of the middle and posterior columns of the spinal cord." (*Anat. Pathol.*, Liv. xxxii., p. 19). In an article of Friedreich on "Atrophic degeneration of the posterior columns of the spinal cord," in Virchow's Archives, 1863, there are two instructive cases recorded, showing the coexistence of the two disorders; and we are indebted to Dr. Bourneville for another observation in the service of Dr. Char-

cot, at the Saltpetriere hospital. (*Nouvelle Etude sur quelques points de la Sclerose en plaques disseminees.* Paris, 1869, p. 205).

Let us pass on to an examination of the mechanism and *pathogeny* of what is looked upon as the distinctive symptom of locomotor ataxy — the so-called motorial inco-ordination, which has its expression in the characteristic helter-skelter gait. By some it is regarded as depending on anæsthesia, cutaneous and deep-seated; others refer it to impaired reflex action; a few believe it due to a loss of the muscular sense of Bell; whilst Dr. Duchenne, of Boulogne, assumes the existence of a special faculty of muscular co-ordination, and is still in search of the physiological unit in some district of the brain (*Physiologie des Mouvements Musculaires.* Paris, 1867, p. 791). When we study the minute anatomy of the spinal cord, which we owe to the unwearying investigations of Dr. Lockhart Clarke, and then look at the anatomical characters of locomotor ataxy, it would seem that there is no need to imagine any special sense or psychical entity to comprehend the nature of the motorial troubles.

Before Dr. Clarke began his researches, it was held that the posterior roots of the spinal nerves are attached exclusively to the lateral columns of the cord; he has shown that they are attached immediately to the posterior columns, and not at all to the lateral. This is an anatomical fact of immense import to the pathogeny of locomotor ataxy.

[The course of each of the three bundles of posterior root-fibres through the posterior columns and gray substance, and the passage of some of them into the anterior columns, were explained and illustrated by photographs after Clarke's drawings. The structural changes in the posterior columns, nerve-roots, and cornua, which are constant in locomotor ataxy, and constitute its anatomical characters, were next described, and photographs, after Clarke, Charcot, Vulpian, and Cornil, showing the appearance of these degenerations, and their histology, were exhibited.]

From his investigations Dr. Clarke inferred (1853), that the posterior white columns cannot be the only channel for the transmission of sensory impressions; and this opinion was confirmed by the experiments of Dr. Brown-Séquard made two years after (1855). The amount of damage always present in the posterior columns and posterior nerve-roots must necessarily interfere with their functions, and as a consequence the correlation of the nervo-muscular systems essential to the accuracy

and harmony of certain motory acts will be more or less disturbed. Disturbed sensorial susceptibility is a natural outcome from the lesions of the cord; and is found to happen, and constantly too in some degree, from the very outset. Trustworthy observers, as Leyden, Allbutt, etc., affirm it, and such is my own experience, as already stated. The fact of early or constant anæsthesia is denied by many, and even some of those who admit its presence will not allow that it can be the cause of the motorial troubles, and call on physiological experiments and clinical facts to uphold their opinion. It is undoubtedly true that anæsthesia, in the strict sense of the word, may not be manifest in all stages of some cases of locomotor ataxy, and particularly in the initial stage, though motorial derangement may have already begun; for the sensorial modification is more properly described by the term *dysæsthesia*, or still more correctly *bradyæsthesia* (slow). The impression of the peripheral stimulus may reach the receptive surface intact, and be there appreciated in its entirety, but there is delay in the transmission, and hence delay in the answer. Several seconds may elapse before a skin irritation, as pricking or pinching the skin, or an electric excitation is perceived. In one of Lockhart Clarke's cases, three or four minutes elapsed, and in another there was an interval of twenty minutes before the patient, without being asked, complained of pain from the thrust of a needle (*St. George's Hospital Reports*, vol. i., p. 77, 1866).

I have known instances where the galvanic current was not felt for from two to five seconds.* I have seen ataxics, who could not pick up a pin or a match at once, or handle a small object, be able to do so after resting the pulps of the fingers on the article for a moment or so, until in fact the impression

*One of the hypotheses offered in explanation of this tardy transmission of peripheral excitations attributes the delay to the necessity of their having to pass exclusively through the gray substance of the cord, the posterior columns being more or less damaged; whilst otherwise they would take the more rapid route of the posterior fasciculi. There is an interesting observation of Dr. Vulpian going to sustain this view. In a typical case of locomotor ataxy, the patient, from previous large bilateral hæmorrhages into the cerebrum, was pretty much in the state of an animal in which both hemispheres have been artificially injured. Spinal excitability was increased, and reflex action, unfettered by any brain influence, could manifest itself to its fullest extent. If the skin of the lower part of either leg were sharply pinched, there was almost instantly the evidence of weak reflex action, and the leg was slightly flexed; but after the lapse of a few seconds, a second movement, stronger and of greater extent, of flexion occurred, and lasted four or five seconds. The patient was speechless and semi-conscious, but there was no sign from the expression of the face that the irritation was felt. These second movements were more marked on the side most recently paralyzed.

had been conducted to the perceptive center. So far, indeed, from anæsthesia proper being present in all cases, there may be hyperæsthesia, and the impression when felt be exaggerated both in intensity and duration. If some degree of dysæsthesia is not found in locomotor ataxy, we may suspect that it has not been intelligently looked for. The adjustment of an æsthesiometer or the compasses, and questioning the patient and receiving his answer, give time for the transmission of the impression in most cases, and in this way the observer is misled.*

The recognition of a derangement of tactile sensibility does not, however, prove that it is the sole factor in the production of muscular disharmony. It is an essential one, but is probably only one of several, which together concur in producing the effect known as motorial inco-ordination, which has come to be regarded as the type-sign of locomotor ataxy. But it may be asked whether the characteristic objective symptom — the hitchy precipitate gait — is really an expression of muscular inco-ordination simply, as is universally set forth, or whether it be not in fact a complex phenomenon. In the beginning there is only unsteadiness and uncertainty in the movements, shown in the ready loss of balance, the trunk oscillations, clumsy, staggering walk, and often fumbling fingers. There is lessened ability to guide the movements. All this is seen in many other affections, and is familiar to us as an effect of alcoholic intoxication. But after a while the quality of the walk is changed; it becomes jerky and spasmodic, and we have the peculiar gait which is proper to locomotor ataxy. The defect of prompt muscular adjustment, noticed in the earlier stages of the disease, may perhaps be properly called inco-ordination, and marks the period when formative irritation has set in; but the changes

* Dr. Brown-Séquard has indicated another source of error in appreciating the degree of tactile sensibility in sclerosis of the posterior columns. He takes as an example a case where the lesion is limited to one cord, and involves the whole dorso-lumbar enlargement, of which he has seen three instances. The ataxy is unilateral and in the corresponding limb. On applying the æsthesiometer both points are correctly felt, as well as pinching, pricking, tickling, &c. The conclusion reached is that there is no modification of sensibility. But according to Dr. Brown-Séquard the very fact that tactile sensibility is apparently natural is sufficient to show that it is really lessened, and that too in a high degree; for sclerosis of the posterior columns, as well as other lesions, is a powerful cause of hyperæsthesia; and if the patient does not feel much more distinctly the various impressions made on the ataxic limb, it is because there is really anæsthesia, and that too in the same parts that are hyperæsthetic. If its sensibility seems natural, the reason is that this faculty has lost all it should have gained, if there had not been a cause of anæsthesia coexisting with the cause of hyperæsthesia. It is wrong, therefore, to say that sensibility is natural when it only seems to be so, and we know that it should be increased. (Archives de Physiologie, &c., t. ii., p. 761, 1869.)

in the spinal cord are yet molecular only, or if structurally palpable, are so in a slight degree. The result of the lesion of the cord is a delay in the transmission of the peripheral incitations to the receptive surfaces — dysæsthesia; hence the want of prompt co-operation between the regulating centers and the motor instruments. The balance of relations between the recipio-motor and the dirigo-motor systems, to borrow Mr. Herbert Spencer's terms, which insure perfectness in complete actions, becomes troubled. When later the posterior columns and posterior nerve-roots are extensively and seriously damaged, new perturbations of spinal mechanism happen; the irradiations * are fitful, wild, and more or less uncontrollable; centripetal impressions and centrifugal impulses travel vaguely, the muscles are in mutiny, and the type-gait is established, and sometimes the extravagances of spinal epilepsy are roused. Still later, when the disorganization of the posterior columns and nerve-roots is complete or nearly so, there is true paraplegia, and the unfortunate sufferer becomes bed-ridden.

Although the progressive structural changes in the spinal cord and nerve-roots may account, in a general way and in accordance with physiological observations, for the characteristic gait and other motorial excesses in ataxics, the precise mechanism of these phenomena has been variously explained, and is still a subject of speculation. Time will not allow me to discuss any of these theories, but I cannot help alluding to the ingenious suggestions of Dr. Lockhart Clarke respecting the influence of the loss, more or less partial, of muscular tonicity, a physiological state dependent on the integrity of reflex action.† This normal tension or tone is defined as that moderate but constant state of contraction that keeps antagonist muscles, or those variously opposed to each other, in equilibrium. In all complicated voluntary movements, a constantly varying number of muscles are balanced against each other in contractions. If some of the muscles of the group employed have lost their tone, they will not properly respond to the voluntary stimulus in the execution of a given movement, and will fail to do properly their part in balancing the effects of the other muscles of the group, whose tension is whole. In

*The phenomena of spinal irradiations consist in the propagation of the motorial incitation to those nervous elements which have not directly received it. If from some cause the excitability of the elements is increased, the irradiated excitation will be more intense and more extended. This is one of the explanations that can be given to account for the untimely contraction of the antagonist muscles. (Jaccoud, Traite de Path. Int., t. i., p. 336.)

† British Medical Journal, vol. ii., 1869, p. 344.

proportion, therefore, to the amount of tension lost by any muscle or set of muscles, there must necessarily result a corresponding degree of disorderly movement. The morbid condition of the cord which would cause this lessening or loss of muscular tone, which is subordinate to a sort of reflex action, actually exists, and it is quite probable that the impairment of this property of the muscles may prove one factor in the production of the peculiar gait.

Whatever may be the value of these theories towards the solution of the complex problem of the motorial troubles in locomotor ataxy, they do not help us to a right understanding of the intimate nature of the affection. The genetic cause is still to be sought. The connection between the disorders of the cranial nerves, so frequent at the outset, and later spinal symptoms, with their relation to structural changes in the cord situally remote, without any necessary implication of the intervening nerve-tissue, has not been made out. These phenomena are certainly not accidentally coincident; they are plainly parts of the same morbid processus, whose uniting link is yet wanting. May it not be found with a better knowledge of the physiology and pathology of the sympathetic nerve? The premature senile decay of some ataxics, compared with the persistent, vigorous general nutrition of others, is note-worthy, and merits investigation.

[Dr. C., in reply to an inquiry, further said: The *prognosis* is not so gloomy as was once thought. The disease is sometimes arrested. In many there is more or less amelioration of the symptoms; and in a few cases recovery has happened. There is liability to error in estimating the value of any particular mode of treatment, on account of the natural pauses in its progress. The several methods of treatment recommended have been too haphazard and specific; single remedies have been blindly tried and submitted to statistical test. May not our therapeutics gain something by a study of the patho-anatomy and patho-physiology of the affection? It would seem that the chances of their success are in proportion to the ability to detect the early morbid errors. Even in the first stages, it is probable more can be done by general than by local measures to arrest its course. Setons, issues, cauteries to the spine, would all seem to be harmful; proper food and clothing very important. Whilst faradisation appears, as a rule, to be injurious, the constant galvanic current, on the other hand, has given some remarkable results. Cases of considerable improvement, and even of recovery, from its use, have been reported by Re-

mak, Frommhold, Cyon, Benedikt, Onimus, and others. My own more limited experience is favorable to it. At my suggestion the Calabar bean (physostigma ven.) has been tried in one case, and with apparent benefit to the motorial troubles. The local pains may be ameliorated by cannabis indica, subcutaneous injections of atropia and morphia. When localized and permanent, they are best relieved by chloroform applied directly to the part.]—*Medical Record.*

LECTURE ON THE TREATMENT OF CATARRH AND BRONCHITIS.

By GEORGE JOHNSON, M.D., F.R.C.P.; Prof. Medicine in King's College; Physician to King's College Hospital.

An ordinary catarrh, although not a dangerous or a very serious disease, is yet, with many persons, an oft-recurring malady, which occasions a great amount of discomfort and annoyance both to the patient and to his associates; and, as treatment has considerable influence upon the progress of the disorder, it is worth while to give the subject careful consideration.

The exciting cause of a catarrh, in the great majority of cases, is a chill, or some unknown atmospheric influence, which tends to suppress the action of the skin; and the most successful plan of treatment consists in the employment of means for restoring the free action of the skin. The popular domestic treatment consists in the use of a hot foot-bath, at bedtime, a fire in the bedroom, a warm bed and some hot drink taken after getting into bed, the diaphoretic action being assisted by an extra amount of bed-clothes. Complete immersion in a warm bath is more efficacious than a foot-bath; but the free action of the skin is much more certainly obtained by the influence of hot air—most surely and profusely, perhaps, by the Turkish bath. The Turkish bath, however, is not always to be had, and even when available, its use in the treatment of catarrh is attended with some inconvenience. In particular, there is the risk of a too speedy check to the perspiration, after the patient leaves the bath. On the whole, the plan which combines in the greatest degree efficiency with universal applicability consists in the use of a simple hot-air bath, which the patient can have in his own bedroom. All that is required is a spirit-lamp with a sufficiently large wick. Such lamps are made of tin, and sold by most surgical instrument makers.

The lamp should hold sufficient spirit to burn for half an hour. The patient sits undressed in a chair with the lamp between his feet, rather than under the chair. An attendant then takes two or three blankets and folds them round the patient from his neck to

the floor, so as to inclose him and the lamp, the hot air from which passes freely round his body. In from a quarter to half an hour there is usually a free perspiration, which may be kept up for a time by getting into bed between hot blankets. I have myself gone into a hot-air bath suffering from headache, pain in the limbs, and other indications of a severe incipient catarrh, and in the course of half an hour I have been entirely and permanently freed from these symptoms by the action of the bath.

Another simple and efficient mode of exciting the action of the skin, consists in wrapping the undressed patient in a sheet wrung out of warm water, then, over this, folding two or three blankets. The patient may remain thus "packed" for an hour or two, until free perspiration has been excited.

I may mention, in passing, that the hot-air bath and the wet packing are very useful in the treatment of many forms of disease. I constantly employ both in the treatment of renal disease; and not long since, I believe that by the wet packing, I saved the life of a lady in whom very alarming symptoms were associated with the imperfect outcoming of the rash of scarlatina.

Now, to return to the treatment of catarrh, let me impress upon you that the sweating plan of treatment, to be successful in cutting short the disease, must be adopted early—I mean within a few hours from the commencement of the symptoms.

Another mode of treating catarrh, which is very successful with patients who are tolerant of opium, consists in giving a dose of opium, or morphia, at bedtime. Within half an hour after the opiate is taken, it frequently happens that the unpleasant coryza, and every other symptom of catarrh, have passed away. If the patient can avoid exposure on the following day, the cure may be complete, and there is no need to repeat the dose.

It is probable that the good effect of the opiate is partly due to its diaphoretic action, which may be increased by combining it with ipecacuanha; but besides its action upon the skin, there must be some direct influence on the nerves and vessels of the inflamed mucous membrane, to explain the speedy relief from discomfort which follows the opiate dose. The opiate treatment of catarrh is not so generally applicable as the sweating plan, for the reason that many persons are intolerant of opium, or they cannot take it without suffering from headache, nausea, and other distressing symptoms, which render it an undesirable remedy for them. In any case, the opiate treatment, like the diaphoretic method, is more successful in proportion as it is resorted to early in the attack.

In some persons, repeated doses of ammonia have the effect of lessening the coryza and other distressing catarrhal symptoms. Five grains of sesquicarborate of ammonia, or a drachm of the aromatic spirit, may be taken in water every three hours. A single dose of ammonia at bedtime is an efficient and useful diaphoretic, its action being aided by external warmth. Some catarrhal patients

experience great relief from an occasional dose of spirit of camphor. The usual dose is from 10 to 30 drops in a wineglassful of water. In ordinary catarrh, as a rule, no change of diet is required. A catarrh which has gone on unchecked for a few days, is sometimes much mitigated by a generous diet.

Those who are especially liable to catarrh should be careful to keep their feet warm and dry; and they should be warmly clothed, wearing woolen next the skin. They should avoid excessive wrapping up, since this, with even gentle exercise, tends to overheat the body, and so to increase the risk of a subsequent chill The practice of wearing a hare-skin, wash-leather, or thick folds of flannel over the chest, is to be condemned as at once filthy and unwholesome.

It may be well to remind catarrhal subjects that the nose is a natural respirator, so that in passing from a hot room into the open air, if the mouth be kept closed, the air, in its passage through the nostrils, has its temperature raised before it enters the chest.

There is reason to believe that the daily use of a cold sponge-bath, or a shower-bath, has a wholesome hardening influence upon those who adopt it, and that it renders them less liable to attacks of catarrh.

Treatment of Acute Bronchitis.—Acute bronchitis is an exaggerated catarrh; the two diseases are essentially the same, and they require the same principle of treatment, only modified according to the character of the symptoms.

In the early stage of acute bronchitis, when the mucous membrane is dry and swollen, the hot-air bath or the wet packing may be employed once, or oftener, with advantage. Another very useful remedy in this stage is tartar emetic, in doses of one-sixth of a grain, combined with liquor ammoniæ acetatis. This mixture exerts a diaphoretic action both upon the skin and the mucous membrane of the air-passages; thus it brings on the stage of secretion, and with this a mitigation of the vascular engorgement. The patient should remain in bed, and the temperature of the room should be maintained at from 60 deg. to 65 deg., the air being kept moist by the steam from the spout of a kettle, or a special boiler on the fire. The inhalation of steam, repeated several times in the course of the day, is often very soothing and beneficial. Hot fomentations may be applied to the front and back of the chest by means of spongio-piline, or flannels covered with Mackintosh. A mild mustard-poultice to the front of the chest is a good remedy for a sense of tightness and dyspnœa; but I advise you not to excite painful inflammation of the skin by mustard or turpentine, or by any other means.

When dyspnœa, with a feeling of tightness and oppression at the chest, is urgent and distressing, the application of a few leeches to the chest, or a moderate abstraction of blood by cupping, often affords prompt, decisive, and permanent relief. Venesection is very

rarely required; though in the case of a plethoric subject suddenly seized with general capillary bronchitis, and threatened with death from apnœa, venesection may prove a life-saving remedy Milk and beef-tea form the most suitable diet during this stage of the disease. Stimulants and opiates are to be avoided, as a rule, on account of their tendency to increase the congestion and dryness of the inflamed mucous membrane. In the second stage, when a free secretion has been established, antimony and acetate of ammonia are to be discontinued. At this period, a combination of sesquicarbonate of ammonia, with spirit of chloroform, is useful as a stimulating expectorant and anti-spasmodic. Brandy or wine in moderate quantities may now be required to sustain the strength. When, in the advanced stages, there is a profuse purulent secretion, with copious perspirations, the ammonia mixture may be replaced by one, each dose of which contains a grain of sulphate of quinia, two grains of sulphate of zinc, and twenty minims of aromatic sulphuric acid. This combination often checks very rapidly the excessive secretion from the bronchial mucous membrane. The stimulating expectorants are sometimes useful at this stage of the disease—I mean senega, squills, ammoniacum, and the compound tincture of benzoin. If, as sometimes happens, the stimulating expectorants suddenly check secretion, tighten the breath, and increase dy pnœa, their employment must at once be discontinued. When the secretions accumulate and threaten suffocation, the patient being blue, and cold, and drowsy, and the cough nearly or quite ceasing, an emetic of sulphate of zinc is often wonderfully efficacious in clearing the air-passages.

Here I must give you an especial warning in regard to opium. A patient who had been sitting up in bed, laboring for breath day and night, naturally craves for sleep, and begs for an opiate. Now, a small dose of opium given in such a case, has caused fatal narcotism in numberless instances. The opiate stops the cough, and, of course, the expectoration; the patient sleeps more and more heavily; meanwhile the secretion accumulates, and causes fatal apnœa. Never, therefore, give an opiate to a bronchitic patient who has the slightest blueness of the lips. When the expectoration is quite free and the lips are florid, you may sometimes venture to give a small opiate, with antimony or ipecacuanha, or you may give a drachm of the compound tincture of camphor, or twenty minims of chlorodyne. The good effect of a few hours' sleep thus procured are sometimes very manifest.

When bronchitis is associated with blood-contamination, consequent on Bright's disease, diaphoretics, purgatives, and dry cupping over the loins, are amongst the most useful remedies.

The treatment of CHRONIC BRONCHITIS is essentially the same as that of the acute form of the disease. They merge into each other by imperceptible degrees. An acute attack may subside into a chronic condition, and exposure to cold will quickly convert chronic into acute bronchitis.

Amongst other remedies in the chronic stage, the inhalation of the vapor of creastoe, or oil of turpentine, by means of Nelson's inhaler, is often beneficial. These vapors facilitate expectoration at the same time that they tend to check the profuse purulent secretion. The abundant secretion may sometimes be checked by inhaling, in the form of spray, a solution of tanic acid.

In treating diseases of the air-passages by the inhalation of vapors, bear in mind that these vapors rapidly pass beyond the lungs: they are quickly absorbed and enter the circulation, causing, in some instances, headache and other discomforts. The necessary contamination of the blood by the inhalation of vapors renders this mode of medication less generally useful than it otherwise might be in the treatment of bronchial inflammation and catarrh.

Change of air, and, in particular, a residence in a mild, dry, and equable climate, are amongst the most important remedial and preventive measures.—Brit. Med. Jour., Oct., 23, 1869.—Med. News.

STENOCARDIA. LECTURES OF PROF. OPPOLZER, VIENNA.

Translated by JAS. T. WHITTAKER, M.D., Cincinnati.

Synonyms.—Neuralgia cardiaca, angina pectoris, hyperæsthesia plexus cardiaci, brustbraune, herzklemme.

By this disease is understood an extremely violent pain extending from the cardiac region, where it originates, out under the sternum, radiating very often into the left upper extremity, and also in other directions, and attended with a feeling of greatest anxiety, "approaching death."

Heberden was the first to describe this disease accurately and to display its nervous character. What nerves of the cardiac plexus are affected, however, still excites a diversity of opinion among authors; in all probability all the nerves entering in its composition participate. In favor of this view speaks the fact that in stenocardia disturbances of nerve force occur both in the motor and sensitive spheres, as evidenced in the former by the abnormal activity of the heart, and in the latter by the violent pain. Romberg denotes stenocardia as a hyperæsthesia of the cardiac plexus. Bouillard as a neuralgia of the phrenic nerve. Heberden as a cramp of the heart, etc.

Etiology and Pathological Anatomy.—If we are so far in the light with the entity of stenocardia that we may regard it as a nervous disorder, for which its sudden and paroxysmal appearance and disappearance speaks, we are still in obscurity as to

its first cause. So much is certain, that it attacks generally a riper age, and unequally oftener the male than the female sex, and that in by far the great majority of cases a valvular disease of the heart, namely, of the aortic valves, is concomitant. There may be consequently a certain connection between stenocardia and valvular disease. Not seldom the autopsy has revealed an ossification of the cardiac arteries, and upon this Home, Parry, Lussana, and Friedreich have laid great stress, or an atheromatous affection of the heart, generally the aorta, an aneurism of the latter, or a cicatricial formation in the heart, an adhesion with the pericardium, fatty or lardaceous degeneration of the cardiac tissue; in short, circumstances which implied a tension or other irritation of the cardiac plexus, or the ganglions imbedded in the heart's substance, and in all these manners has the origin of the stenocardic attacks found an explanation.

On the other hand, conditions have been found on section where anatomy was unable to detect the slightest abnormity; and yet during life a stenocardia was present in high degree. Gout is also considered an etioliological circumstance by many, which seems indeed in individual cases justifiable. Finally, there remains still to mention the so-called reflex stenocardia, wherein there is no disease of the heart or its adnexa, but some affection of an organ far removed therefrom. So the occurrence of this disease is occasionally remarked with affections of the uterus, the kidneys, liver, or stomach, etc., the stenocardic attacks clearly emanating from disease of one of the organs mentioned and terminating with their cure. A few such cases have occurred here in connection with catarrh of the stomach, and a proper treatment for this malady has been equally efficacious in removing the accompanying stenocardia.

Symptoms.—Stenocardia occurs, as already mentioned, in paroxysms, with intervals of variable duration perfectly free from pain. The attacks occur either during the hours of occupation, or so to speak, spontaneously in the night during sleep, or after meals.

The paroxysm may be recognized by the following characteristics: sudden and extremely violent pains are felt in the substernal region, generally exactly corresponding to the cardiac region, and as already partly intimated, radiating, in the rule, into the left, but often also into the right arm and in the maxillary region, in rare cases finally extending down into both lower extremities. The pains in their quality are either burning or lancinating, and are generally attended with a high

degree of oppression, a feeling as if the throax was laden with a heavy burden. Great compression exists, the patient is compelled to observe the greatest possible rest, the face is pale, seldomer cyanotic, sunken, covered with cold perspiration and bears an expression of greatest anxiety. The heart's activity during the attack in the majority of cases is extremely tumultuous and violent, so that the throax is forcibly shaken, the impulse at the apex is far more extensive, and on auscultation, nothing can be observed of the sounds or accidental murmurs present, only simply the clinking stroke of the organ on the parieties of the chest. The pulse at the same time observes no relation to this vehement activity, remaining small even scarcely palpable, which circumstance may find its explanation in the fact that in consequence of the violent action of the walls of the heart the proper filling of its cavity and the propulsion of the pulse wave is hindered. The pulse is besides very often also irregular and intermittent. Finally it occurs quite often that in spite of an increased frequency of the cardiac contractions the impulse remains remarkably feeble and limited to a small area; this is the case when the heart is in the condition of fatty degeneration, or an extensive adhesion with the pericardium is present.

The condition of respiration during a stenocardic attack is well worth mention. This in most cases is short, violent, and whistling, although a quiet deep inspiration can be executed without much effort; this dyspnœa must therefore, as Heberden has justly observed, be only regarded as a result of the feeling of great anxiety.

Only exceptionally are the patients able to observe a dorsal decubitus; in the rule they are compelled to sit or stand, very often grasping any firm objects in their vicinity. They hasten also not seldom to the window when the attack occurs in a room and seek in this manner satisfaction for the feeling of hunger for air. Toward the close of the attack evacuations occur, or even vomiting, escape of intestinal gases, discharge of feces and evacuation of urine of a water-like clarity. The duration of an attack varies from one minute to half an hour. After the attack a feeling of debility and depression remains for a time, a disturbance of the disposition, and in many cases also a dull pain in the chest or shoulder, attended in the arm with a feeling of debility or slight anæsthesia.

Diagnosis.—The diagnosis of stenocardia presents generally but little difficulty. The chief symptoms which characterize the disease are the substernal pains, their radiation toward the

shoulder, the neck, and the arms to the elbows, or often even to the fingers; further, the extreme feeling of anxiety and the sense espiratory oppression. Stenocardia might be confounded with the asthmatic attacks following pulmonary disease; a more accurate examination, however, would soon dissipate such an error. Even so, a proper knowledge would forbid a mistaken diagnosis in the cases of the hysterical asthma of emales, or the asthma of hypochondriasis. From simple nervous palpitations, hyperkinesis cordis, stenocardia may be differentiated by the absence in the former of the substernal pains and their radiations, as well as of the feeling of "approaching death," with its attendant thoraicic oppressioos.

Prognosis.—The prognosis of this disease is a varied one. Should a demonstrable alteration in the heart or the vascular system (atheromatous disease) lie at its basis, the prognosis is unfavorable; and in those cases especially where the attacks occur after short intervals, and display an increase in their intensity. The danger then consists in the facts that a sudden death may occur during the paroxysm, or the patient may become marasmic and die of debility. When no organic disease exists, however, when the paroxysms are not particularly intense, and the intervals are longer, then is the prognosis not unfavorable, as the malady in such cases may exist for many years and not bring the patient into much danger. Unfortunately our experience compels us to reckon the cases of stenocardia without demonstrable lesions among the exceptions. Favorable is the prognosis finally when the disease is of reflex origin, if the affection of the organ inducing it be amenable to treatment

Therapy.—The therapy is divided into that of the attack and that of the interval.

During attack.—Above all things is the greatest possible rest to be observed, which however is generally the case, as every motion increases the difficulty. If the heart's action be very much increased, administer a dose of opium ½ gr. or its preparations, morph. acet. $\frac{1}{6}$ $\frac{1}{4}$ $\frac{1}{3}$ gr., to which also gr. j–ij quin. sulph. may with advantage be added. Digitalis is not among the favorite remedies, since small doses are powerless in relief and larger doses, with the exhaustion of the cardiac nerves already to be feared in consequence of the enormously increased activity, might easily induce a paralysis of the organ. Besides we may attempt a counter-irritation with exciting clysters, mustard plasters, etc., tepid maniluvia and pediluvia, to which a handful of farina seminum sinapis may advantageously be added, and

ice applications may be laid over the precordia to quiet the excited action. When the sense of oppression is very severe chloroform inhalations may finally be attempted, but always with the greatest caution, and never to the extent of loss of consciousness.

Should symptoms occur during a stenocardic attack which intimate great feebleness of the cardiac action, or should the paroxysm excite fainting or other evidences of debility, an excitant treatment must be introduced. Wine, acetic or sulphuric ether, alone, or with camphor (℞. æth. acet., ℥j.; camphor, gr. iij.; s. gtt. viij., in dessert-spoon of water), liquor ammon. anisat., liquor cornu cervi succinat., warm envelopments to the cold hands and feet, frictions of the forehead and temple, with eau de cologne, etc. In those cases, where appearances of death exist, reanimative efforts are to be undertaken and persevered in with patience, since conditions of apparent death, according to experience, do not belong to the rarities.

During interval.—When the paroxysms have displayed anything of a periodicity, quinine stands at the head of all remedies for commencing the attack; and in those cases, too, wherein the paroxysms display no typical return, quinine is still to be employed, and resort is only to be had to other remedies when this has failed; other remedies recommended are the different preparations of zinc, cuprum ammon, nitras argenti, or the tr. arsenic Fowleri; argentum, however, only to be employed when all other remedies have failed, as a *dernier resort*, on account of its occasional evil effects. A case occurred here, wherein a patient affected with psoriasis was subjected to arsenical treatment for several months, the consequence of which was that a paralysis of all four extremities occurred, and remained defiant of all remedies until death. Symptoms of chlorosis or anæmia indicate a roborant treatment—and here the iron remedies play an important role. In general, the therapy of this disease calls always for a regard of its exciting cause, which is especially to be sought out in the so-called reflex forms.

Besides the proper medication, certain rules of caution are to be recommended. Patient must refrain from all excesses and from exciting drinks; he shall abstain from hot food, the ingesta to be nutritious and easily digestible; mental excitement strongly forbidden. He shall remain in-doors in bad, particularly windy, weather; when the circumstances admit it, he is to be sent to a climate without extremes. The grape cure exercises, not rarely, an alleviating influence, particularly when the malady is not too severe; the regular cold water cures, on

the other hand, are not to be recommended, while simple cold washings, or even cold baths, are permissible and beneficial; swimming, however, is most decidedly to be forbidden.—*Cincinati Lancet and Observer.*

ON A NEW PREPARATION OF PEPSINE.

By EDWARD LONG, L.A.H., Dublin.

During some recent investigations into the manufacture, relations, and general properties of pepsine, I was induced to make a solution in glycerine, somewhat after the manner of "Ellis' Rennet Wine," so much prescribed of late in this city. Many considerations led up to this idea, and the results more than realized my expectations.

In the ordinary process for making pepsine, there is necessarily used a considerable quantity of starch to produce a dry powder, which evidently opens the door to great adulteration, as it is difficult to detect the relative proportion of the active and passive constituents. As a consequence, we hear most discrepant opinions of the therapeutical value of pepsine. Some maintain that it is inert, as it often is, no doubt, through fraud or bad manipulation. Others, again, attach the importance to it which might be expected from reasoning on well-known physiological facts, and find their *a priori* conclusions supported by experience. The difference of opinion is due, in this case, to the difference in the quantity of pepsine present in an active state in the preparations used; and this must arise from some defect in the *modus operandi* of procuring it.

I will not here enter into any critique on the ordinary processes. A fair sample of pepsine may, with care, be obtained by most of those published, though erroneous statements have obtained currency as to the effect of various re-agents on it. What is desirable is that some convenient and certain process be discovered, with definite results easily tested.

With these objects in view, I commenced my experiments, and with the result of procuring a solution of pepsine definite and certain in strength, and so pleasant to the taste that even children will not find it objectionable, but the contrary.

The fresh stomach of the pig, having been washed in water sufficiently to remove all particles of food, and the cardiac end removed, as yielding rennet only, is cut into slips and digested

for one week in as much glycerine as will entirely cover it, then strained and filtered. The resulting fluid is about the consistency of simple syrup, somewhat thinner than glycerine, of a pale, sherry color, sweet to the taste, with the characteristic flavor of pepsine.

A drachm of this, with 15 minims of muratic acid, and an ounce of water added, at 100°, readily dissolved 700 grains of moist fibrine, properly prepared; while the best of the solutions in general use, which I have tried, only dissolved 75 grains, and that not so completely under the same conditions.

Lactic acid, which is generally stated to answer as well as muriatic, I have found, comparatively inert, which tends to corroborate the original opinion of Prout in opposition to the statements of M. Bernard and Barreswill.

The solution I have described has this further recommendation, that whereas the various solutions of pepsine in sherry, etc., are very liable to spoil, this keeps very well. I have before me now some of it made seven months ago, in which there is no sign of decomposition.

Half a drachm to a drachm, taken in a little water, at or immediately after meals, ought to be found the most effective preparation of pepsine in use. It may be taken undiluted if preferred, but should always be associated with food in the stomach. It is quite compatible with most articles of food in ordinary use which are really wholesome and digestible; but it would be well to bear in mind that alcohol, unless very dilute, destroys pepsine, whether it be the natural exudation from the gastic mucous membrane, or that introduced as a suppliment by modern science. The cases in which it will be found applicable I leave to the physician, as it would be foreign to the purport of this paper to describe them.

As the action of any agent derived from the animal kingdom is an unknown quantity in calculating effects, its adoption, therapeutically, should be with discretion. I have, therefore, thought it right, considering the powerful solvent or digestive action of this solution, to test it in my own person before recommending it to others; and I can testify, for the confidence of my medical friends, that it is not only quite safe, but, so far as one can estimate in a limited experience, beneficial in the degree to be expected *a priori*.

To prevent confusion, and, at the same time, to invite trial, I have called my solution "Prepared Gastric Juice," or "Digestive Solution of Pepsine," a small bottle of which I shall be happy to send to any medical man disposed to try it—not with

a view to elict clap-trap testimonials on narrow premises, but to enable them to judge of the value of this remedy in some of the most troublesome cases which come under the care of the physician.

Let it once be granted that pepsine, removed from under the action of the vital force, retains its activity, and it follows that simplicity and certainty in the process for obtaining it in such a form as will keep reasonably well are all that is required. Both desiderata I believe I have arrived at, judging by the tests already mentioned, and I now with confidence offer the result to the profession.

As a postscript it may not be unnecessary to remind that pepsine and rennet are two different things, and produce different effects; one of the most obvious is that the latter coagulates albumen, while the former dissolves the curd so formed. It has frequently come to my knowledge that people have been directed by their medical attendants to make whey with pepsine wine, and are not a little disappointed to find they can not succeed; rennet wine or essence no doubt being intended.—*Dublin Medical Press and Circular.*—PHARMACIST.

Book Notices.

On the Wasting Diseases of Infants and Children. By EUSTACE SMITH, M.D., London; Member of the Royal College of Physicians, etc., etc., etc. Philadelphia: Henry C. Lea. 1870.

This is a neatly published octavo volume of 195 pages. It contains an introductory chapter of 25 pages, a chapter on simple atrophy, from insufficient nourishment, one on chronic diarrhœa, one on chronic vomiting, one on rickets, on congenital syphilis, on worms, on chronic tuberculosis, on chronic pulmonary phthisis, and on tuberculization of glands. These several subjects are considered at length and with ability.

For sale at S. C. Griggs & Co.'s, Chicago. Price $1.50.

Obstetric Aphorisms, for the Use of Students commencing Midwifery Practice. By JOSEPH GRIFFITHS SWAYNE, M.D.;

Physician Accoucher to the Bristol General Hospital, and Instructor in Obstetric Medicine in the Bristol Medical School. From the Fourth Revised English Edition, with Additions by Edward R. Hutchins, M.D. Philadelphia: Henry C. Lea. 1870. Duodecimo; pp. 177. Price $1.25.

We have received the above neat and convenient little volume, through the bookstore of S. C. Griggs & Co., of this city. It is a very convenient little manuel for reference, particularly for students and young practitioners; and the fact that it has passed through four English editions, is evidence that it possesses positive merits.

Editorial.

Alumni Association of Chicago Medical College.—The members of this Association will hold their annual meeting in the Hall of the Chicago Medical College, on Tuesday, March 22d, 1870. Meetings will be held for the reception of reports, papers, and the transaction of business, at 11 o'clock A.M., and at 4 P.M.

A social entertainment may be expected in the evening.

It is earnestly desired that as many of the Alumni, from all parts of the country, as possible, will attend. The commencement exercises of the college will take place the same day, at $2\frac{1}{2}$ o'clock P.M.

College Commencement.—The public commencement exercises of the Chicago Medical College, will be held in the College Hall, on Monday and Tuesday, March 21–22, 1870.

The exercises on Monday will commence at 2 o'clock P.M., and consist in the public examination of the candidates for graduation and the reading of thesis. On Tuesday, the exercises will commence at $2\frac{1}{2}$ P.M., and will consist in the distribution of certificates to the undergraduates, the award of premiums for the best thesis, conferring the degrees, by Prof. Haven,

President of the North-Western University, response on the part of the class, and valedictory address by Prof. H. A. Johnson. The medical profession and the public generally are invited to attend on both days.

Spring and Summer Medical Instruction.—The regular summer course of instruction, in the Chicago Medical College, will commence on the first Monday in April and continue until the first of July. The course will consist of from one to two hours clinical instruction in the hospitals, and two lectures and examinations in the college each day. The instruction will be given by the faculty of the College and their assistants. It is supplementary to the regular winter term, and is free to all the matriculants of the College.

Medical College Convention.—We have learned that delegates to the Convention to be held in Washington, on Friday preceding the next meeting of the American Medical Association, have been appointed by many of the older and more influential schools in the country, both North and South. We can see no good reason why every medical college cannot be represented on that occasion. The schools in New York and Philadelphia have it entirely in their power to determine whether our entire college system of education shall be placed at once on a reasonable and proper basis or not. The schools in the West, and the profession generally, are willing to sustain fully the essential features of the plan adopted by the Convention of 1866. Will the colleges and universities in the Eastern cities longer let their rivalries deter them from that open concert of action which the honor and interests of the profession require?

The coming Convention will be regarded, very generally, as fully settling the question whether the medical colleges of this country can be induced to take any important steps in the work of improving our system of medical education, in concert, or not.

Chicago Medical Society.—The regular meetings of this

Society have been moderately well attended during the past two months, and the cases presented have been interesting, and the discussions profitable. At a recent meeting, Dr. E. A. Bogue, one of the Surgeons to the County Hospital, presented a pathological specimen consisting of the bones of the fore-arm, which had been previously amputated. The patient had died of pyemia.

The amputated end of the bone presented a partially necrosed appearance, with gangrenous spots in the pulp or medullary matter, extending some distance into the shaft of the bone. It was remarked that such appearance of gangrene had been observed in most cases in which proper examinations death from pyemia had been made.

Dr. Bogue claimed that there were two diseases very generally confounded under the name of pyemia, or septicemia. The one was derived from true *purulent* infection, and the other from putrid infection. The term *pyemia* should be restricted to the first, and that of septicemia to the second. The first he had found to be uniformly fatal, under every variety of treatment, and he thought those cases reported from time to time in the medical periodicals, as cases of pyemia successfully treated by sulphites, or other remedial agents, were not pyemia proper.

It might be difficult to draw the differential diagnosis between the cases of purulent and putrid infection. But he thought the first commenced much more insidiously, and when connected with a wound, the surface of the wound always presents a peculiarly pale and flabby appearance for twelve to twenty-four hours before the general symptoms were observable. The patient was more passive and indifferent than in septicemia; the chills and sweats more generally repeated from day to day; the progress of the case slower, and more steadily downward until the fatal result was reached. Another peculiarity was that in pyemia re-amputation or excision of the wound after the constitutional symptoms had appeared, was productive of no benefit; while in septicemia from putrid and gangrenous wounds, removal of the injured part is often followed by a rapid improvement. The case elicited an interesting discussion, which was

resumed at a subsequent meeting of the Society; but no important facts or modes of treatment were elicited, not already well known to the profession.

Minnesota State Medical Society.—The Second Annual Meeting of the Minnesota State Medical Society was held at St. Paul, February 2d, 1870.

The following were elected officers for the ensuing year:—*President*—Samuel Willey, M.D., of St. Paul; *Vice-Presidents*—N. B. Hall, M.D., of Minneapolis, W. H. H. Richards, M.D., of Winona, and Solomon Blood, M.D., of Ottawa; *Recording Secretary*—E. H. Smith, M.D., of St. Paul; *Corresponding Secretary*—C. H. Adams, M.D., of Hastings; *Treasurer*—S. B. Sheardown, M.D., of Stockton. We hope the Secretary will send us a full account of the proceedings.

Changes in Medical Journals.—*The Western Journal of Medicine*, recently published at Indianapolis, Ind., has been discontinued, or rather superceded by a monthly journal, called the "*American Practitioner*," published at Louisville, Ky. The journal in its new form and location is edited by Prof. D. W. Yandell and Theophilus Parvin, and promises to be one of our best monthly medical periodicals.

Diploma Venders—Reply of Dr. T. Williams.—In the present number of the Examiner will be found a letter from Dr. T. Williams, of Milwaukee, in explanation of his "Collegiate Agency," to which we had previously invited the attention of the profession in that city. Before making any comments on his letter, we will be much obliged if he will inform us what medical schools or colleges employ him to act as their agent, and sell tickets for students or practitioners who are not in attendance, and who are only expected to attend at the final examination? Also what colleges confer medical diplomas on practitioners who may have practised five years, or three years, and attended one course of lectures, without any examination (*pro forma*), and how much they charge for such diplomas? If all the operations between him, as agent, and the colleges are

legitimate and honorable, as he claims, there can be no objection to giving us the additional information we ask. In the meantime, we have been informed by a correspondent, at Madison, Wisconsin, that the Legislature, now in session there, has repealed the charter of Dr. Williams "Medical Institute."

Professor Bigelow's Letter in our last number.—The following is from the *Boston Medical and Surgical Journal*, Jan. 27.

Erratum.—The word "published"* was here accidentally substituted, in the printed proof, for *made public*. By seeming to refer to the *printing* of my paper in 1869 instead of its *public reading* in 1861 (see p. 10), it does injustice to certain European observations in 1865–8; and on this account I am unwilling to leave it uncorrected. But this is a separate and here wholly incidental question. As far as the passage relates to Prof. Gunn, I believe it to be strictly correct as it stands. I cannot find that he alludes to the ilio-femoral ligament before Sept. 17th, 1869. H. J. B.

*At the end of the last paragraph but two.

The Arts, is the title of a new folio sheet of 24 pages, published in this city, by Joseph M. Hirsh & Co., of this city. It is to be published monthly, and devoted to science and arts. The first number is published in good style, and it merits an extensive patronage. Price $1 per annum. Office Nos. 10 and 12 South Wells St., Chicago.

PROFESSOR BIGELOW'S FINAL REPLY TO PROFESSOR GUNN.

Mr. Editor:—The question of injustice, which is alone at issue between Professor Gunn and myself, refers to two points, viz.:

1. Did he, in opposition to the Y ligament theory, assign several different parts of the hip capsule as the essential cause of the phenomena of hip dislocation?

Unquestionably he did.

For example, he pointed out the anterior part for the dorsal,

and the posterior part for the pubic dislocation.* My statement, of which he has so loudly complained, is correct.

2. In his two dorsal dislocations, did Professor Gunn, when he designated the anterior "half" of the hip capsule, point out the ilio-femoral ligament, which is a portion of this half?

Clearly, not.

He entirely fails to show that the ilio-femoral ligament even occurred to his mind, "in this relation," until my book was published. He had previously designated the capsular ligament loosely by "halves," and offers no evidence that in so doing he had analyzed or dissected the anterior half more than the posterior half.

The Y ligament theory in hip dislocations will in time pass for what it is worth. It is not the subject of the present discussion, and I therefore do not follow the new issues of Professor Gunn. If his fears of circumduction, which are shown to be unfounded, compel him to resort to a Jarvis' adjuster, † in order to reduce a thigh by manipulation, I leave to him the task of convincing the astonished reader that this is an expedient of "skill, not force." ‡

The imputation of injustice, which has caused me some solicitude, is the only issue between us. I have shown that no injustice has been done to Professor Gunn, and therefore leave the discussion here.

HENRY J. BIGELOW.

* Luxations, &c., p. 20, line 20. † Ibid, pp. 13 and 14. ‡ Ibid.

AMERICAN MEDICAL ASSOCIATION.

Office of Permanent Secretary, Wm. B. Atkinson, M.D.,
1400 Pine Street, S. W. cor. Broad, Philadelphia.

The Twenty-first Annual Session will be held in Washington, D.C., May 3, 1870, at 11 A.M.

The following Committees are expected to report:

On Cultivation of the Chincona Tree, Dr. Lemuel J. Deal, Pennsylvania, Chairman.

On the Cryptogamic Origin of Disease with special reference to recent microscopic investigations on that subject, Dr. Edward Curtis, U. S. A., Chairman.

On the Doctrine of Force, Physical and Vital, Dr. John Waters, Missouri, Chairman.

On Variola, Dr. Joseph Jones, Louisiana, Chairman.

On the Relative Advantages of Syme's and Pirogoff's mode of

Amputating at the Ankle, Dr. G. A. Otis, U. S. A., Chairman.

On a National Medical School, Dr. F. G. Smith, Pennsylvania, Chairman.

On Commissioners to aid in Trials involving Scientific Testimony, Dr. John Ordronaux, N. Y., Chairman.

On the Climatology and Epidemics of Maine, Dr. J. C. Weston; New Hampshire, Dr. P. A. Stackpole; Vermont, Dr. Henry Janes; Massachusetts, Dr. H. I. Bowditch; Rhode Island, Dr. C. W. Parsons; Connecticut, Dr. E. K. Hunt; New York, Dr. W. F. Thoms; New Jersey, Dr. Ezra M. Hunt; Pennsylvania, Dr. D. F. Condie; Maryland, Dr. O. S. Mahon; Georgia, Dr. Juriah Harriss, Missouri, Dr. Geo. Engleman; Alabama, Dr. R. F. Michel; Texas, Dr. T. J. Heard; Illinois, Dr. R. C. Hamil; Indiana, Dr. J. F. Hibberd; District of Columbia, Dr. T. Antisell; Iowa, Dr. J. C. Hughes; Michigan, Dr. Abm. Sager; Ohio, Dr. T. L. Neal; California, Dr. F. W. Hatch; Tennessee, Dr. B. W. Avent; West Virginia, Dr. E. A. Hildreth; Minnesota, Dr. Samuel Willey; Virginia, Dr. W. O. Owen; Delaware, Dr. L. B. Bush; Arkansas, Dr. G. W. Lawrence; Mississippi, Dr. W. Compton; Louisiana, Dr. L. T. Pimm; Wisconsin, Dr. J. K. Bartlett; Kentucky, Dr. J. D. Jackson.

On Veterinary Colleges, Dr. Thomas Antisell, D. C., Chairman.

On Medical Ethics, Dr. Lewis A. Sayre, N. Y., Chairman.

On American Medical Necrology, Dr. C. C. Cox, Maryland, Chairman.

To Memorialize State Medical Societies, Dr. N. S. Davis, Illinois, Chairman.

On Nomenclature of Diseases, Dr. F. G. Smith, Pennsylvania, Chairman.

On Medical Education, Dr. T. G. Richardson, Louisiana, Chairman.

On Medical Literature, Dr. J. J. Woodward, U. S. A. Chairman.

On Prize Essays, Dr. Grafton Tyler, D. C., Chairman.

Voluntary communications will be presented by—

Dr. John Curwen, Pennsylvania, on the Proper Treatment of the Insane.

Dr. Nathan Allen, Massachusetts, on the Physiological Laws of Human Increase.

Secretaries of all medical organizations are requested to forward lists of their Delegates as soon as elected, to the Permanent Secretary.

Any respectable physician who may desire to attend, but cannot do so as a delegate, may be made a *member by invitation*, upon the recommendation of the Committee of Arrangements.

W. B. ATKINSON.

Indian Hemp in Hydrophobia. — At a recent meeting (Dec. 2d) of St. Andrew's Medical Graduates' Association, a communication was read from Prof. Polli, of Milan, recommending the use of Indian hemp, in large doses, in hydrophobia. He related a case in which, although the patient died, the horror, and violence, and raving which torture hydrophobic patients were entirely subdued by its use.

In the discussion which ensued, Dr. Ross expressed an opinion that the frightful symptoms accompanying attempts to swallow were not depending on a mental or moral cause, but resulted from physical pain produced by any act of deglutition. He related a case which he had seen lately, in which Dr. Lockhart Clarke discovered no lesion of the nervous centres, but in which there was the small ulcer in the back of the pharynx, which had been described as an accompaniment of the disease.

Prof. Polli also added a note on the fact that coffee, tea, and cocoa assist, while lemon juice, citric, malic, acetic, and tartaric acids prevent, the action of Indian hemp. The latter may truly be called antidotes.—*Lancet*, Dec. 11, 1869.

Exuberance of Life in Great Varieties at Enormous Ocean Depths. — One of the most important scientific communications received of late years by any learned society is the report on the recent deep-sea explorations, made to the Royal Society, on Thursday, Nov. 18th, by Dr. Carpenter. Our space will not allow us to make an analysis of it, but we may mention one or two of the startling facts which the deep-sea dredging has brought to light. The explorations have been conducted on board H. M. S. *Porcupine*, by Dr. Carpenter, Prof. Wyville Thompson, and Mr. Gwyn Jeffreys. In the first place, this and former explorations have fully proved, contrary to all preconceived opinions, that life exists in wonderful variety and exuberance at enormous ocean depths, and that the temperature of the deep sea presents the most remarkable variations in degree.

"More remarkable still, it was found that a difference in bottom temperature, between 32° and 47°, existed at points only eight or ten miles distant from each other, beneath a uniform surface temperature of about 52°, and that where this was the

case, in the cold area, the bottom was formed of barren sandstone, mingled with fragments of older rock, and inhabited by a comparatively scanty fauna, of an artic or boreal character, while in the adjacent warm area, the bottom surface was cretaceous, and the more abundant fauna presented characteristics due to the more temperate climate."

It is easy to see how this discovery gives to the winds many of our cherished ideas, with regard to the succession of strata and of geological periods.

"The upheaval of a few miles of sea-bottom, subject to these conditions, would present to the geologist of the future two portions of surface totally different in their structure; the one exhibiting traces of a depressed, the other of an elevated, temperature; and yet these formations would have been contemporaneous and conterminous. Wherever similar conditions are found upon the dry land of the present day, it has been supposed that the high and the low temperature, the formation of chalk and the formation of sandstone, must have been separated from each other by long periods; and the discovery that they may actually coëxist upon adjacent surfaces, has done no less than strike at the very root of many of the customary assumptions with regard to geological time."

Well might Sir Charles Lyell call these discoveries almost revolutionary in their character. It has been hitherto the custom to talk and write about the dark caves and recesses of ocean, but all this must be expunged from scientific writing and left to the poets. From the most profound depths—more than 2000 fathoms, nearly the height of Mont Blanc—animals of high organization, *and with perfect eyes*, have been brought to the surface by the dredge. Sir Charles Lyell suggested that the light which these creatures evidently enjoy must be a phosphorescent one. Over the whole of the warmer areas explored, the bottom was found to be covered with globigerina deposit—animals actively engaged in chalk formation. In the colder areas these are not found, but there we have beds of volcanic sand, with whole nations of echinoderms. Besides, from these great depths the dredge has brought up delicious sponges and foraminifera, zoophytes, molluscs, annelids, and crustaceans. 127 species of molluscs, not previously known to exist in the British seas were made captive, and many of them belong to new species. Dr. Carpenter promises shortly to exhibit to the Fellows of the Royal Society, specimens of all the treasures of the deep which are thus wonderfully brought to light.—*Med. Times and Gazette.*

THE OLDEST RELIC OF HUMANITY.—The oldest relic of humanity extant is the skeleton of one of the earlier Pharaohs, encased in its original burial robes, and wonderfully perfect considering its age, which was deposited about 18 or 20 months ago in the British Museum, and is justly considered the most valuable of its archæological treasures. The lid of the coffin which contained the royal mummy was inscribed with the name of its occupant, Pharaoh Mikerinus, who succeeded the heir of the builder of the Great Pyramid, about ten centuries before Christ. The monarch whose crumbling bones and leathery integuments are now exciting the wonder-gazers in London, reigned in Egypt before Solomon was born, and only about 11 centures or so after Mizraim, the grandson of father Noah, and the first of the Pharaohs, had been gathered to his fathers. The tidemark of the deluge would scarcely have been obliterated when this man of the early world lived, moved, and had his being.—*Medical Record.*

RUSH MEDICAL COLLEGE.

FACULTY.

J. V. Z. BLANEY, A.M., M.D., Prof. of Chemistry and Pharmacy.
JOS. W. FREER, M.D., Prof. of Physiology and Microscopic Anatomy.
J. ADAMS ALLEN, M.D., LL.D., Prof. of Principles and Practice of Medicine.
E. INGALS, M.D., Prof. of Materia Medica and Medical Jurisprudence.
DeLASKIE MILLER, M.D., Prof. of Obstetrics and Diseases of Women and Children.
R. L. REA, M.D., Prof. of Anatomy.
MOSES GUNN, A.M., M.D., Prof. of Principles and Practice of Surgery and Clinical Surgery.
EDWIN POWELL, M.D., Prof. of Military Surgery and Surgical Anatomy.
JOS. P. ROSS, M.D., Prof. of Clinical Medicine and Diseases of the Chest.
EDWARD L. HOLMES, M.D., Prof. of Diseases of the Eye and Ear.
CHARLES T. PARKES, M.D., Demonstrator.
H. F. CHESBROUGH, M.D., Clinical Assistant and Prosecter of Surgery.
FRANCIS L. WADSWORTH, M.D., Assistant to Prof. of Physiology.

The Twenty-eighth Annual Course of Lectures will commence on Wednesday, Sept. 28th, 1870, and continue eight weeks.

FEES.—Lectures, $55.00; Matriculation, $5.00; Dissection, $5.00; Hospital, $5.00; Graduation, $25.00.

Daily Clinics at the Dispensary, (except Sundays.) Surgical Clinics on Saturday afternoons, throughout the year, at which patients from the *country* and *city* are treated gratuitously.

Hospital Clinics are abundant and varied.

For Annual Announcement, or any information with reference to the College, address the Secretary,

DR. DeLASKIE MILLER,
518 Wabash Avenue, CHICAGO.

Mortality for the Month of January, 1870:—

Accident, burned by gasoline and naphtha	3	Croup	27	" ease of	2
" asphyxia	2	" membranous	5	" disease of	1
" run over by wagon	1	Debility	3	" " dropsy	1
" railroad	1	" general	3	Larynx, inflammation	1
" scalded	3	" and old age	2	Laryngitis	1
" suffocation by falling in ditch	1	Delirium tremens	2	Lungs, congestion of	3
Abscess, hepatic	1	Diabetes	1	" stomach "	1
" of pylorus	1	Diarrhœa	2	" Paralysis of	2
Aneurism, cardiac	1	Diphtheria	15	Manslaughter	1
Anus, imperforate	1	Dropsy	5	Measles	5
Angina	1	" general	2	Meningitis, rheumatic	1
Apoplexy	5	Dysentery	4	" tubercular	1
Ascitis	2	" chronic, and abscess hepatic	1	" and convulsions	1
Asthma	2	Empyema	1	Metro-peritonitis	1
Asphyxia	2	Encephalitis	1	Meningitis	12
Atelectasis pulmonem and ulcer of abdomen	1	Endo-carditis, rheumatic	1	" cerebro-spinal	2
Births, premature	12	Enteritis	6	Metritis and dysentery	1
" still	41	" and pneumonia	1	Old age	6
Bowels, congestion and dysentery	1	Erysipelas	2	Œsophagus and tracha tumor	1
Brain, congestion of	2	Fever, congestive	1	" inflammation of	1
" & lungs, chronic disease of	1	" intermittent	1	Paralysis	7
" disease of	1	" puerperal	4	Pericarditis	1
" inflammation & insanity	1	" scarlet	49	Peritonitis	1
" inflammation	6	" " complications	8	" puerperal	2
" paralysis of	2	" " malignant	6	Pneumonia	29
" softening of	2	" typhoid	6	" & complications	2
Bronchitis	3	Gangrene and traumatic delirium	1	Pregnancy, extra uter.	2
" capillary	6	Gastritis	2	Purpuria hemorrhagia	1
Cancer of breast	1	Gastro-enteritis	1	Pyæmia	1
" of bladder and ulceration	1	Heart, disease of	5	" following amputation of forearm	1
Cachexia Africana	1	" hypertrophy of	1	Rheumatism	1
Cellulitis, pelvic	1	" neuralgia of	1	Scrofula	2
Childbirth	2	" valvular disease	3	Small-pox	1
Cholera infantum and convulsions	1	" fatty degeneration of	2	Spina bifida	1
Convulsions	56	Hepatitis	1	Spine, inflammation of	1
" puerperal	1	Hernia, femoral	1	Stomach, cancer of	1
Consumption	43	Hip, disease of	1	Suicide, poison	4
		Hydrothorax	1	" hanging	2
		Hydrocephalus	11	Tabes mesenterica,	6
		Inanition	9	Teething	4
		Intemperance	1	Uterus, cancer of	1
		Intestines, constriction	1	Urina organs, cancer	1
		Kidneys, Bright's dis-		Whooping-cough	4
				Total	482

NATIVITY.

Bohemia	2	Germany	51	Russia	1
Canada	3	Holland	3	Sweden,	11
Chicago, Native	95	Italy	2	Scotland,	7
Chicago, Foreign	157	Ireland	40	Switzerland	1
U. S., other parts	85	Norway	3	Unknown,	2
England	12	Poland	3		
France	3	Prince Edw'd Island	1	Total,	482

AGES.

Under 1	136	10 to 20	15	60 to 70	25
1 to 2	49	20 to 30	33	70 to 80	8
2 to 3	42	30 to 40	43	80 to 90	7
3 to 4	21	40 to 50	28		
4 to 5	18	50 to 60	19	Total,	482
5 to 10	38				

COMPARISON.

Deaths in Jan'y, 1870,--482 | Deaths in Jan'y 1869,-- 383 | Increase, --- 99
Deaths in Dec., 1869, ---------- 438 | Increase, ---------- 44

Males, ----------244 | Females, ----------238 | Total, -------- 482
Single, ----------368 | Married ----------114 | Total, -------- 482
White, ----------478 | Colored, ---------- 4 | Total, -------- 482

MORTALITY BY WARDS FOR THE MONTH.

Wards.	Mortality	Mortality.	
1	8	Accidents	11
2	17	County Hospital	7
3	20	Home for Friendless	2
4	12	Hospital for Women and Children	1
5	27	Immigrants	1
6	26	Jewish Hospital	2
7	21	Manslaughter	1
8	36	Mercy Hospital,	4
9	36	Protestant Orphan Asylum	1
10	16	St. Luke's Hospital	1
11	15	St. Joseph Orphan Asylum,	5
12	16	Suicides	6
13	9		
14	9	Total,	482
15	47		
16	26		
17	24		
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THE

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Original Contributions.

ARTICLE XI.

A CASE OF TETANUS FOLLOWING COMPOUND FRACTURE OF THE LEG: RECOVERY.

Under the care of E. J. A. TRIMBLE, M.D., of Sagetown, Ill., and DAVID McDILL, M.D., of Biggsville, Ill.

REPORTED BY DR. TRIMBLE.

On the 8th day of December last, Edward Gotke, a laborer in the stone quarry at this place, while engaged, with several others, in moving a heavy piece of rock, had his right leg caught between the same and a bank of frozen earth, and severely injured. On examination, about two hours after the accident occurred, a fracture of both the tibia and fibula was discovered in the lower portion of the middle third of the leg, both bones being broken on the same line, and in a transverse direction, but with no comminution of the fragments, and no displacement. About two inches above the point of fracture, on the posterior surface of the leg, and a little to the inner side, was a wound of an inch in length, externally, communicating with the fragments; while the skin and underlying tissues surrounding the injured bones, were badly crushed and bruised from a point two inches below the seat of injury, to one four inches above. Extensive discoloration existed between these two points, while the cellular tissue throughout almost the entire length of the limb, from

knee to ankle, was infiltrated with air in such a degree as to present marked resonance on percussion; there had been considerable hemorrhage, but the principal vessels of the leg were apparently uninjured.

Dr. McDill agreed with me in thinking that the probability of our being able to save the limb was not great, but the solicitations of the patient and his friends finally induced us to make an attempt to do so. The leg was accordingly laid in a fracture box, supported by bags of cotton, and cold lotions constantly applied, a little morphia being given occasionally to prevent muscular contraction. By the third day, the swelling of the limb had mostly subsided, and sloughing of the integument begun. The pads of cotton were now removed and replaced with bran, which could be removed from about the point of injury whenever it had become saturated with the discharge; and the sloughing surface frequently washed off with a weak solution of carbolic acid. This treatment was continued until the tenth day, when the limb was removed from the fracture box, and suspended on the anterior splint of N. R. Smith. This apparatus was found to answer an admirable purpose in affording steady and equable support to the limb, while it relieved the sloughing surface on the posterior aspect of the leg from the heat and pressure which we had been unable to prevent while the fracture box was used. It also enabled us to constantly observe the progress of the sloughing process, and to apply our dressings without difficulty. The appearance of the leg at this time was anything but encouraging; although the wound leading to the broken fragments had apparently closed up, yet the extensive sloughing of the integument, which included the greater portion lying between the points mentioned as the limit of discoloration, *viz.:* from a point two inches below the seat of fracture to one four inches above the same, rendered the leg, within these limits, an almost entire mass of disease.

The splint used was of wood, as we were unable to procure the wire splint recommended by Dr. Smith. It was carefully adapted to the length of the limb, and to the angles of the knee

and foot, with the limb slightly flexed at the knee-joint, and extending about six inches above the knee. Thus adapted, it was laid along the anterior surface of the leg, and confined by strips of adhesive plaster: one around the foot, one around the ankle, just below the edge of the sloughing surface, one just above the same, one around the knee, and one above the knee. The hooks attached to the suspensory cord were then applied, and the limb swung up, and a roller bandage applied around the limb and splint, from the toes to the ankle, and another from the upper edge of the slough to the end of the spint above the knee.

Carbolic acid dressings were used throughout the whole course; and were prepared in the manner advised by Professor E. Andrews, in his article on antiseptic surgery, in the Chicago MEDICAL EXAMINER, for December, 1869. The carbolic oil and the five per cent. solution were used in the following manner: the sores, after being thoroughly cleansed, were syringed off with the five per cent. solution; a piece of patent lint wide enough to embrace the whole of the sloughing surface was then saturated with the carbolic oil, and wrapped around the limb, and held in this situation by a many-tailed bandage, passed under the leg and tied over the splint above. These dressings proved in every way satisfactory; and throughout the whole period in which the patient was under our care, the improvement so far as the leg was concerned, was almost uninterrupted.

On the eighteenth day, *viz.:* Dec. 25th, symptoms of tetanus appeared; the patient complaining of stiffness and soreness of the jaw and neck, and inability to open the mouth more than half way. Bromide of potassium and extract of Indian hemp were prescribed, in the proportion of twenty grs. of the former with two grs. of the latter, every four hours. During the three days following the patient remained in much the same state; on the 28th, the dose of Indian hemp was increased to four grs. I transcribe from my note book the following condensed record of the case from that date:

Dec. 29th. Trismus slightly increased; substituted the tr. of Indian hemp for the solid extract, and ordered half a drachm with 40 grs. brom. potass. every five hours.

30th. No change.

31st. Trismus slightly increased.

Jan. 4th. Has remained in about the same condition since the 31st ult.

5th. Trismus considerably increased, with some stiffness of the muscles of the back, and jerking of the injured leg. Head drawn back slightly; appetite poor; hands and feet cold; pulse 100. The bromide of potassium and tr. of hemp were now discontinued, and as the bowels were confined, an ounce of castor oil, with half a drachm of turpentine, administered, and one forty-eighth gr. sulphate of atropia injected into the arm. At 5 P.M. there was marked improvement; extremities warm, skin moist, pulse 90, and suffering no pain; pupils not affected. As the bowels had not yet moved, the castor oil was repeated.

6th. Trismus about the same; had some "jerking" of the leg during the night; pulse 110; bowels moved this morning. One forty-eighth gr. of atropia was injected.

7th. Patient not so well; trismus somewhat increased, with more "jerking" of the leg than heretofore; abdominal muscles rigidly contracted; extremities cold; pulse 110; pupils normal. One thirtieth gr. of atropia was injected, and repeated at 5 P. M., and again at 12 P.M.

8th. Not much change. The leg still "jumps;" abdominal muscles rigidly contracted, and there are occasional spasms of pain and cramping of the bowels. Bowels confined; pulse 98; pupils dilated. Administered 10 grs. hydg. chol. mite., to be followed in four hours by an ounce of castor oil, with half a drachm of turpentine, and injected one forty-eighth gr. sulphate of atropia. At 8 P.M. the injection was repeated.

9th. Is feeling about the same as yesterday. Bowels moved during the night; pulse 100; pupils dilated. One forty-eighth gr. atropia was injected, and at 8 P.M. one thirtieth gr.

10th. Can observe no change. Injected one forty-eighth gr. At 8 P.M. an ounce of castor oil was administered, and the injection of atropia repeated.

11th. About the same as yesterday. Bowels moved this morning; pulse 95; pupils only slightly dilated; one thirtieth gr.

sulphate atropia was injected, and at 8 P.M. one twentieth gr.

12th. Rested well last night, and feels better this morning. Injected one thirtieth grain of atropia, and at 8 P.M. one twentieth gr.

Our patient continued in about the same state until the 19th, the abdominal muscles remaining perfectly rigid, and the trismus marked, though not interfering greatly with deglutition, nor giving rise to much pain. The appetite fair and the pulse ranging from 90 to 110. Laxatives were administered occasionally, as required, while the amount of atropia injected was gradually increased, until one twelfth gr. was injected twice daily.

19th. Patient appears a good deal worse than usual. Trismus somewhat increased; abdomen perfectly hard, with a great deal of pain and cramping. There is more "jerking" of the affected limb than heretofore; and the respiratory muscles seem to be implicated. He has some difficulty of breathing, and is unable to fully inflate the lungs. Bowels open; appetite poor; pulse 110; pupils only slightly dilated. One twelfth gr. atropia injected, and repeated at 8 P.M.

20th. About the same as yesterday. Injections repeated.

21st. Is a good deal better. Rested well through the night. Trismus somewhat decreased; abdominal muscles much less rigid, and there is no jerking of the leg. Pulse 90; pupils partially dilated. One twelfth grain of atropia was injected, and repeated at 8 P.M.

22d. The improvement noticed yesterday still continues. Trismus much less marked, and the rigidity of the abdomen almost disappeared. There is no pain nor cramping, and the respiration is easy and natural. Appetite good; bowels open; pulse 90; pupils dilated. One twelfth gr. atropia was injected, and at 8 P.M. one twenty-fourth gr.

From this time forward the improvement was uninterrupted and rapid, the tetanic symptoms disappearing with so much celerity that on the 24th there remained no apparent trace of the disease. The injections of atropia were discontinued on the 26th, and on the same day the splint was removed, and the

leg found to be of proper length and shape, and the bones firmly united. At this time, Feb. 4th, the external sores are less than one-third their original size, and fast filling up. During the whole course of the treatment the patient was allowed the most generous diet that could be procured.

ARTICLE XII.

A CASE OF PYEMIA TREATED WITH SULPHITE OF SODA.

By O. W. SADDLER, M.D., of Lake City, Feb. 7, 1870.

In October, 1868, I was called to see Mrs. H——, a married lady about 35 years of age, and the mother of seven children, two of which were dead. Her health for several years has been subject to great variations; she has what would be called a scrofulous constitution, several times having had suppuration of the lymphatic glands of the neck, and as a result a great depression of the general system, which by proper tonic and alterative treatment would again recuperate; for two years she had been free from the suppuration of these glands.

With this she had had a profuse uterine leucorrhœa all the time, the discharge being muco-purulent. Before the healing of the glands she became pregnant, when the glands healed more rapidly, the leucorrhœa subsided to a great extent, and she became healthier and more fleshy than for a long time before. After her confinement the leucorrhœa returned very bad, and that, with the lactation, reducing her very low, with very troublesome and painful prolapse and anteversion of the uterus, for which she would do nothing but occasionally inject some astringent into the vagina. After weaning the child she improved a little, but the uterine trouble still remained.

About eighteen hours before my visit, while driving some cows out of the yard, she was taken with a severe chill, retired immediately to the house and tried to get warm, but warmth seemed to do no good; the chill continued about one hour, when

she felt as much too warm as too cold before. This reaction remained about as long as the chill had done, when the chills returned with severe vomiting. They immediately sent for their family physician, but he not being at home, I was sent for. On arriving at the house, I found the patient in a cold and exhausted state, partly unconscious, hearing nothing said without it was spoken very loud, and then seeming not to understand—rolling her head slowly and groaning. When her attention was secured, which could be done occasionally, she said her head ached very hard, and she was sore all over—"don't touch me." She was also unable to move her limbs at all. The pulse was very weak and rapid; could not count them accurately; must have been 150 or 160 per minute. Her tongue was dry and a little brown, and some sordes on the teeth. There was also some diarrhœa, of a brown, soft-soapy looking matter, with tenderness over the *centre* of the abdomen and close to the pubis.

I supposed I had a very severe case of typhoid fever, which might produce death almost immediately. I went to work to bring about reaction and stop the vomiting, by putting heat to the body, friction to the extremities, and giving morphia sulph. gr. $\frac{1}{4}$, in peppermint-water, as often as it should be thrown up, or every two hours if not thrown up, followed with quinia sulph. gr. v. and aromatic sulph. acid, m. v., alternately with the morphia to be kept up till reaction was restored, when the same remedies were to be given every four hours alternately.

On visiting her the next morning, I found that reaction was established. It came slow, but no chills were felt after that. She had slept some, had vomited but two or three times, and but one movement of the bowels; the soreness of the muscles still remained, and the same inability to move, and great trouble to swallow—tongue had now become very dry and brown, and a great deal of sordes on the teeth. Continued morphine sufficient to produce rest, and gave sulphite of soda, gr. x., every three hours. Pulse about 100 and stronger.

Third day. Found sordes thicker and covering her lips inside and out, also the roof of her mouth, and inside of her cheeks, unable to taste the difference between bitter and sweet, the only

sensation being a smarting produced by any and all liquids alike, except acids, which were worse. Consciousness wholly returned, except at night, when she was somewhat delirious, yet unable to follow a line of conversation. Her diet consisted of beef and mutton teas, and wine. No vomiting; but one operation of the bowels; pulse about the same as yesterday. Continued the sulphite the same as before, and morphia at night.

Fourth day. Sometime during the evening or night, a large abscess broke, and evacuated itself through the vagina. This morning she is more quiet; the soreness is all gone from the flesh, and she can swallow better and move a little. The scabs are thicker, darker, and dryer than yesterday. Put glycerine on the outside, and gargled the mouth with a weak solution of carbolic acid. Continued other treatment as before.

Fifth day. Rested very well last night; feels better this morning, and says her head feels natural again. This morning she is poking the scabs out of her mouth with her tongue, and has cleaned her teeth, looking in a small glass to guide her work by; very weak, and can pick them and her lips but a little while at a time. Continued sulphite, and whatever she chooses for nourishment, as she now has a little appetite.

Sixth day. Mouth and lips all cleaned off; eyes look bright; appetite still better. Gave seidlitz powder as laxative; continued sulphite.

Tenth day. Found her sitting up and dressed. The cause of all this trouble, I consider to be the abscess in the pelvis, and the highly poisoned state of the blood, from the absorption of pus from the same, the exact location of which I was unable to determine, as she would not permit an examination to be made. Its obscurity arose from there being no febrile action connected with its formation, and no uncommon local pain, not enough at least to make them call my attention to it.

Now, I do not claim that the sulphite saved the woman's life, for I think that had not the abscess broke, the absorption of pus would have continued to be more rapid than the sulphite could have neutralized, but the blood being so thoroughly saturated with it, when exit was given to the supply of pus the recovery was very rapid.

Original Translations.

THE RELATION OF THE WHITE BLOOD CORPUSCLES TO SUPPURATIVE INFLAMMATION.

By A. HENOCQUE.

Translated from the *Gazette Hebdomidaire* for the Medical Examiner.

Two important communications have been made, one to the Academy of Sciences, by Mr. Robin, in behalf of Mr. Feltz, the other to the Academy of Medicine, by Mr. Vulpian, in behalf of M. Hayem, treating of histological subjects of much interest to the anatomist and pathologist. We propose, therefore, to present to the readers of the *Gazette* a brief *resume* of the results of various experiments which have been made in Germany, England, and France. The question is not one simply of histological and pathological fact; it involves also a theory of inflammation that has been designated "The Theory of Cohnheim." The fact is the passage of the leucocytes, or white blood corpuscles, through the walls of the vessels in the inflamed tissues. The theory is the application of this fact to the history of suppurative inflammation. We shall examine both.

Less fortunate than Cohnheim, and those who have repeated his experiments, the real inventor, A. Waller, had not the good fortune to attract attention to his discovery. Even after the experiments of Cohnheim became known in his own country, it was not England that claimed for him priority, but Hungary. Koloman Balogh, professor at Pesth, first called attention to the works of Waller.

In the year 1846, Waller,* studying the circulation of the blood, in the mesentery of the toad and in the tongue of the frog, discovered the passage of the white and red corpuscles through the walls of the capillary vessels. He concluded, after a prolonged series of experiments, that the white corpuscles

* A. Waller, *Philosophical Magazine*, vol. xxix. Koloman Balogh, *Virchow's Archives*, 45 Bd., p. 19.

could penetrate the vascular walls unchanged; and that the blood possessed the property of closing the openings which had served for their passage.

In another work, published in the same volume, under the title of "Microscopic observations on the perforation of the capillaries by the corpuscles of the blood, and on the origin of mucous and pus globules," Waller established the identity of globules of pus and of mucous with white blood corpuscles. This paper elicited neither criticism nor discussion.

In September, 1867, Cohnheim* published in the *Archives of Virchow*, an extended work, in which he established the fact that pus corpuscles existing in the inflamed cornea are not formed there, but that they have their origin outside of the cornea, and are in fact leucocytes, or white blood corpuscles, which, in virtue of their amiboid movement, pass the walls of the bloodvessels in the cornea.

Cohnheim believed himself the discoverer of this fact. His experiments were made upon the hare and frog, and in the latter, after having colored the white corpuscles by carmine, or blue aniline (which is accomplished by injecting the coloring matter into the lymphatic sacs), he found the white corpuscles containing particles of color in the inflamed cornea.

The same phenomenon was produced upon the cornea of the hare. Cohnheim demonstrates directly, the passage of the white and red corpuscles through the vascular walls of the mesentery of the frog, and describes with care the successive stages of the migration of the leucocytes.

These experiments were soon repeated, and the results have varied upon some points. In order to appreciate them well, it is necessary to separate the observations upon the cornea and the non-vascular tissues, from those made upon structures rich in vessels.

Hoffman and Recklinghausen† observed that in the cornea detached, but preserved by a special arrangement, there were

* Cohnheim. *Archiv. of Patholog., An. et Phi.*, 40 Bd., p. 679.

† Hoffman and Recklinghausen. *Central Blatt*, 1867, No. 31. Hoffman, *Archiv. f. Patho., An. and Phys.*, Bd. 44, p. 204.

produced new elements, having amiboid movements. They, therefore, maintain that in the cornea, pus may be formed, directly at the expense of previously existing elements. These authors do not contradict the facts observed upon the mesentery.

Stricker and Norris† have also concluded from their experiments, that in ceratitis the contractile cells are formed by the multiplication of the elements of the cornea itself. In inflammation of the vascular parts, the very exact experiments of these authors have, on the contrary, fully confirmed the results of Cohnheim.

Prominent among the works recently published is that of Kremiansky,‡ (January, 1868). As it is less known than the preceding, we shall give a more detailed *resume* of its most important points. The first series of experiments consist of microscopic observations of the inflammatory process in various animals. The author has perfected the manner of operating; and in the mammifera, the white corpuscles being difficult to distinguish, he colors them by injecting in the blood aniline, or better still, cinnabar finely pulverized. A few hours after the injection, the greater part of the white corpuscles contain particles of cinnabar, thus rendering these elements apparent.

Still farther, the author has discovered a means of rendering the phenomenon more rapid, by employing cauterization, especially in the use of the crystals of cantharadine, distributed along the veins. By this means the migration of the leucocytes is accomplished in about ten minutes.

His first observations confirm those of Cohnheim. In fact, Kremiansky has been able to follow, in the mesentery of the frog, the various phases of the process, that is the enlargement of the veins, the retardation of the circulation, the accumulation of the white globules, and, at the border of the blood stream, the stoppage of the white corpuscles against the interior surface of the wall; the appearance of accumulations in the form of spheres, of buttons, of cones, on the exterior of

† Norris et Stricker Vienna, 1869..

‡ Kremiansky. *Weiner Medizinische Wochenschrift*, Nos. 1 to 6, 1868.

the vascular walls; the gradual increase of these accumulations; the complete passage of the white corpuscles out of their vessels, with their successive modifications, into pyriform, fusiform, stellate, pollygonal, and rounded bodies. These globules accumulate around the vessels, then break into the neighboring tissues with change of form, and finally assume the well-known appearance of pus corpuscles.

Still farther, Kremiansky has seen the corpuscles at the same time, pass through the veins and the wall of the lymphatic, by which, in certain cases, it is surrounded. In the capillaries, the white corpuscles commence their migration when the stagnation of the blood is complete; they remain often imbedded in the midst of the walls. The red corpuscles can also pass the capillaries, but they also often remain engaged in the walls of the vessels. In the arteries, the author has never witnessed this migration of the globules.

These results differ from those of Cohnheim in some points of detail. In fact, Kremiansky has seen the passage of the red globules through the veins, as well as through the capillaries. They also undergo this change of relation independently of the white, although Cohnheim believed the red globules only passed the capillaries following the leucocytes. Such are the facts observed in the simple irritation caused by the exposure of the mesentery of the frog to the action of the atmosphere. The phenomena are somewhat different when a local irritation is produced by the application of a crystal of cantharadine to a vein. There are observed, first a narrowing of the vessels at the point of application of the irritant, an acceleration of the inflammatory process, which limits itself at a determined point, the passage of the leucocytes through the wall is much more easily seen, and finally, there is added an important fact; namely, the lymphatic corpuscles which are encountered normally in the conjunctive tissues of the mesentery, change their position, moving towards the irritated part, and accumulating there.

These phenomena may be readily observed in the tongue of the frog. Kremiansky has also observed the same fact in the

wing of the bat, and in the inflamed mesentery of the hare and dog; but in the latter, he has not been able to follow directly the ulterior changes of the white corpuscles.

A second series of indirect observations complete the study of the process. After having injected into the veins of the frog, the hare, the dog, the cat, and the fowl, a weak saline solution, containing cinnabar in suspension, he detected the existence of inflammation in various organs, and was able thus to study the position occupied in the tissues, by the leucocytes containing grains of cinnabar. These experiments have not been conducted exclusively upon the non-vascular tissues (cornea cartilages), but have also been made upon the peritonium.

The conclusion of the author may be summed up as follows: The inflammatory products (pus exudations, false membranes, adhesions,) are made up histologically, for the most part, of the white corpuscles which come from the veins and the capillaries, the walls of which they traverse, (*emigration des leucocytes*). On the other hand, the forms contained in the inflammatory products may come from the elements which are contained in the conjunctive tissue of the cornea, or of the mesentery, and which have amiboid movements, and are really the lymphatic cells· Finally, these inflammatory products may be formed in part by a proliferation of the fixed corpucles of the conjunctive tissues, as in the inflamed cartilage, when young cells develop at the expense of pre-existant cells.

In England, Charlton Bastian* published and repeated the experiments of Cohnhiem. He saw not only the migration of the leucocytes, but that of the red corpuscles, which pass the walls, not by a simple passive phenomenon, but, as he believes, in virtue of an active property. These corpuscles seeming to possess, in themselves, amiboid movements.

In France, the works of Cohnheim have been noticed by a very faithful analysis published in the *Archives de Physiologie Normale et Pathologique*, for March, 1868. Mr. Chalvet, in his inaugural thesis (*Phisiologie Pathologique de l'Inflammation*, 1869), has also noticed these experiments; and more recently the

* C. Bastian. *Medical Times and Gazette*, March 9, 1868.

researches of M. M. Hayem* and Feltz† have been the occasion of the discussion of the subject in the academies. Mr. Hayem has made observations upon the mesentery and lung of the frog, and his descriptions are, in the main, in accordance with the published results of Cohnheim. He has found the epithelial layers and the conjunctive tissues of the mesentery almost perfect. The epithelial covering remains inactive during the process of inflammatiom, and is penetrated by the leucocytes. Following the developement of traumatic pneumonia in the lung of the frog, Mr. Hayem has observed that the inflammatory process presents the same phases as in the mesentery, and that, while the white and red corpuscles are seen to pass through the alveolar walls and partitions, not a single nuclear multiplication in the corpuscles of the inter-capillary spaces is observed. But, on the contrary, a certain number of these elements become transformed into granular bodies, under the eye of the observer.

I will add, that the experiments of M. Hayem have been made, in some sense, publicly, in the laboratory of Mr. Vulpian; so that a number of persons have been able to follow them, and Mr. Vulpian himself has no hesitation in considering the phenomenon of migration as a fact perfectly established, and easy of observation.

We cannot too strongly urge upon histologists the importance of repeating these experiments, and arriving at personal knowledge upon the subject; especially as it can be accomplished at a sacrifice of but little time or patience. For the purpose of verification simply, we would recommend the means employed by Kremiansky, that is the application of crystals of cantharadine upon the mesentery or tongue of the frog. We have been, by this means, able to follow closely the modifications of the circulation of the inflamed parts, and to observe the accumulation of the leucocytes upon the interior surface, and their migration through the wall. In these studies, we confess we sought for the causes of error in Kremiansky's experiments,

* Hayem. *Gazette Medicale*, No. 1, 1870.

† Feltz. *Journal de l'Anatomie et de la Physiologie*, No. 1, 1870.

rather than to verify them, as we were strongly inclined to doubt the correctness of his conclusions. The doctrine has met with strong opposition, not only in its application to the non-vascular tissues, such as the cornea, but the alleged fact itself, of the migration under any circumstances, has been strongly denied. We shall notice only those opponents who attempt to refute the doctrine by experiment.

Koloman Balogh,* in 1868, repeating the experiments upon the mesentery of the frog, did not observe the passage of the white corpuscles through the walls of the vessels. He pointed out certain causes of error, and gave a different interpretation to the appearance of the inflamed mesentery. He also called the attention of the scientific public to the fact that to A. Waller, of England, and not to Cohnheim, is due the credit, if such it be, of priority in the publication of the doctrine.

Mr. Feltz, of Strasbourg, has experimented upon the tongue and mesentery of the frog, and the mesentery of the young mouse; he has also studied the artificial inflammation of the peritonium; tried without success the injection of aniline, and notwithstanding repeated observations, has never seen the white corpuscles pass the vascular walls. Mr. Feltz agrees upon one point with Cohnheim; that is upon the absence of remarkable modifications in the elements of the peritoneal connective tissues. Still farther, he has never seen the extra-vascular elements, which constitute pus, forming themselves of pre-existent elements, whether by direct division or by the multiplication of their nuclei.

This is the state of the question, as to the passage of the leucocytes through the walls of the blood-vessels. Some have seen it, others have not seen it. The negation is an absence of knowledge, and we might rest here. True criticism, however, seeks to look into the details of the experiments, to discover, if possible, the reason for this difference of opinion.

Let us follow Mr. Feltz, step by step, in his argument and observations. One fact strikes us in his descriptions. If we exclude, in the experiments of Cohnheim, the affirmation of the

* Koloman Balogh. *Archives de Physiologie*, No. 1, 1869.

direct passage of the leucocytes, we find a great analogy between the two authors. Indeed, Mr. Feltz has seen the inert layer upon the border of the blood stream, in which the leucocytes slowly circulate, the red corpuscles being in the centre of the current; he has also seen the accumulations of the white corpuscles on the interior surface, their adhesion to this surface, and their change of form; and, finally, he points out also the union of a great number of these elements upon the exterior surface of the wall. That which is wanting is the detection of the white corpuscles in the act of their passage or strangulation in the walls. The presence of these elements upon both sides of the walls involves, perhaps, the theory of their migration.

Mr. Feltz has seen still more. We quote: "After a certain time, there appears at the external border of the vessels, one or two, and even more, little asperities, which, when analyzed with care, are found to be nothing more than little masses of leucocytes, resembling in all particulars those upon the interior of the wall. These little external mamelons, composed of elements perfectly independent of each other, are quite as likely to be produced upon the points corresponding to the interior mamelons as upon other portions of the wall, and I have seen many times, fifteen, twenty, or thirty corpuscles massed into points where there were, upon the interior of the vessels, only a smooth and simple lining of white elements."

Indeed, Mr. Feltz has almost seen the phenomenon complete. It is to be regretted that he has not been more precise in giving exact information as to the volume of the little asperities, and of the little masses, because if they can be resolved into three or four leucocytes, a quantity necessary to form a little mass, it seems to us that they constitute more than a little asperity. The white globules of the frog are about eight to ten-thousandths of a millimetre (one-twenty-five-hundredth to one-thirty-one-hundreth of an inch) in diameter, while the smaller veins are nine-hundredths of a millimetre (one-two-hundred and seventy-fifth of an inch) in diameter. The thickness of the wall is about one-hundredth of a millimetre (one-twenty-five-

hundredth of an inch); it follows, then, that the projection formed by three or four leucocytes upon the exterior of the wall, will be at least double the thickness of this wall. But it often happens that the asperities observed upon the exterior of the wall are in reality of the size of a leucocyte, or less, when first discovered. Besides, by observation, one may see masses, as Mr. Feltz has done, transformed into leucocytes assuming the globular form, sometimes two or three in succession, make their appearance. In fact, they follow each other through the vascular walls.

Mr. Feltz has seen, in a very transparent mesentery of a mouse, leucocytes appear at a point transversed by a single vessel, without there having been found a single interior asperity or mamelon in the whole extent of the branch under observation. This is a phenomenon which has been explained by Kremiansky, since according to him, corpuscles analogous to leucocytes, existing normally in the mesentery, are endowed with spontaneous movement, and are seen to converge towards the vessels.

Mr. Feltz, in the second part of his work, endeavors to demonstrate by negative results, that pores permitting the passage of the leucocytes, do not exist in the vascular walls, as these walls do not allow the passage of colored injections, nor of fine particles of aniline. We shall return to this objection, which has a bearing upon the theory of Cohnheim. Thus far we have endeavored to examine carefully the principal fact—the migration of the corpuscles through the vessels, which constitutes the basis of Cohnheim's theory. This theory, however, comprehends the accessory facts and conditions which accompany or explain the passage of the leucocytes, as well as the application of these facts and conditions to the theory of inflammation and of suppuration.

Such are the two new points which we shall proceed to investigate. First, the experimentors who have seen the passage of these corpuscles, are called upon to indicate the mode and anatomical route by which the migration is accomplished. Cohnheim suggests the open mouths of the epithelium of the

vessels. Unfortunately this is a point of anatomy still in doubt. The resistance of these walls to the passage of fine particles seems to be inconsistent with the hypothesis of open epithilial mouths. The experiments made with aniline, and with cinnabar, which color more easily, have not, up to the present time, furnished sufficient proof upon this point; it is necessary to wait for further developments before arriving at a conclusion. The three negative experiments of Mr. Feltz are not, in my opinion, of great importance; since, on the one hand, he has not seen the white corpuscles imbued with the coloring matter of aniline—a process of colorization very uncertain,—while, on the other hand, the results of the injection of cinnabar have been very clear, thus proving that the granules penetrate easily into the red corpuscles, and are even deposited in the various tissues. It is so easy to color the white corpuscles with cinnabar, that this fact need not be left in doubt. That which is more difficult to demonstrate is the *manner* by which these granules of cinnabar penetrate the tissues. But is this difficulty as to the *mode* a sufficient reason for believing that the *fact* of the penetration does not exist. No; it is simply a want of knowledge, but cannot negative a single determined fact. As to the red corpuscles, they can only be forced through the walls by pressure of the blood, *a vis a tergo*, for, notwithstanding the opinion of Bastian, and of other experimentors, the amiboid movement of these corpuscles is not yet demonstrated.

There are other conditions which favor the passage of the globules out of the vessels; such as the paralysis of the smooth muscular fibre indicated by the enlargement of the vessels, but the discussion of all these questions would occupy too much time, we must be content to simply suggest them.

Cohnheim endeavored to show that suppuration is always the result of migration, or of the extravasation of the white globules. In his second article,* he insists upon the integrity of the fixed corpuscles of the conjunctive tissues of the cornea and of the mesentery, in his experiments. The pus, therefore, can only be produced from the white corpuscles or leucocytes

* Cohnheim. *Archives of Pathol., Anat. et Phys.*, vol. xlv, p. 333.

which have passed from the blood. He claims that this is the case in both the vascular and non-vascular tissues. The facts which we have cited tend to support this theory, so far as it applies to the vascular tissues. The almost complete integrity of the fixed corpuscles of the conjunctive tissues, is a fact which has been remarked by nearly every experimentor—even Mr. Feltz; but as to the non-vascular tissues, there still remains, as we have seen, much doubt. The reason for these divergences of opinion are easily seen; they depend entirely upon the anatomical question of the texture of the conjunctive tissues.

Since Recklinghausen has shown, in the cornea, in a normal state, the existence of movable corpuscles, which are also found in the mesentery, where they represent cells and embryoplastic nuclei, described by Mr. Robin; other experimentors (Huxley, Kühne, Koelliker) have also seen these elements endowed with amiboides properties or contractions. We have ourselves* followed the changes of form in these elements, in the mesentery of the frog. Finally, Kremiansky attributes to them a certain role in inflammation. The question is complex, and the synthetical study of the connective tissues does not seem likely to simplify it.

The theory of suppuration promulgated by Virchow, and generally adopted, namely, that pus is formed by the proliferation of the conjunctive elements, does not require an exhaustive study or analysis of each of the tissues made up of these elements; now, however, it is necessary to search for the truth by a thorough anatomical study of each of these tissues. We find the evidence of this necessity when we examine the theory of Cohnheim for a definite idea or principle, the demonstration of which is found in the fact of the emigration of the leucocytes.

It seems to us that there is an evident agreement only between the theory and the phenomena observed in the mesentery; that is in the laminated or conjunctive tissues, properly so called, and that we may therefore adopt the following conclusions, analogous to those of Kremiansky:

* Hayem et Henocque. *Archives Gen. de Medicine*, Juin and Juillet, 1866.

1st. In suppurative inflammation of the laminated tissue, the act of suppuration is essentially vascular, the leucocytes pass the walls of the vessels, and are the elements called pus corpuscles.

2d. The embryoplastic elements, or the mobile corpuscles of the conjunctive tissues, have altogether an accessory part.

3d. As to the fixed corpuscles to the laminated fibres, their office is nul. There is no proliferation, in the ordinary sense of the term; there are notable alterations only in case the inflammation passes beyond the limits of suppurative inflammation. To apply these phenomena to tissues of conjunctive substances in general (tissues of the cornea, of bone, etc.), would be, in my opinion, premature. For all these tissues the question is still one for investigation and discussion.

Finally, in looking over the phenomena and theories presented, we see on the one hand, a fact positively affirmed by a good number of observers, and on the other, a theory of which the limits are not yet well defined, and of which many of the elements are incomplete. The fact itself is almost fatal to the two principal theories, which, up to the present time, have been invoked to explain the formation of pus—that is the theory of proliferation, and that of spontaneous generation in the midst of blastema.

It will be readily admitted, that it is important to complete the investigation as to the fact rather than claim its impossibility because it is inconsistent with two theories which are themselves in opposition the one to the other. J.

No. 6 Sixteenth St., March 7th, 1870.

Something in Regard to Dr. Charles West, the Children's Friend.—The London correspondent of the *Cincinnati Lancet and Observer* called upon the eminent author and teacher, Charles West, M.D., F.R.C.S., and found him exceedingly social and agreeable, and in splendid health, though quite old. He does but little beyond consultation practice. He is now connected with only one hospital, which he founded in Queen's Square, for sick children, and calls it *his child.* Dr. West does not pretend to lecture.—*Medical Record.*

Foreign Correspondence.

K. K. Allgemeinen Kraukenhaus,
Vienna, Jan. 31st, 1870.

CLINIC OF PROF. HEBRA.

Case I. Young woman about twenty years of age, has a yellowish incrustation or scab, about as large as a cent, just under the eye, somewhat elevated above the surface of the surrounding parts. The disease is lupus erythematodes. The locality speaks for this disease. She has had it several years. Experiences no pain or itching. We know nothing of the causes of this species of lupus. The microscope in this, as in some other skin diseases, can make no diagnosis for us. It very seldom occurs on children under ten years of age; and ten or more times as often by women as men. It never occurs combined with lupus vulgaris, or other species, but alone.

Has known one patient who had a small patch of lupus e., and while taking a course of arsenic, broke out with lupus e. universalis. The arsenic was abandoned and the lupus vanished. Arsenic was again instituted, and was followed by a new outbreak of the disease. Caustic potash has less influence on this than on the other species of lupus. The application of caustic potash followed immediately by arg. nit., has proven itself to be the speediest method. It sometimes takes months or years to cure this species, hence one must be careful about his prognosis. Treated one young lady six years before effecting a cure. Knew of one case cured simply by washing with soap several times daily. Could destroy this lupus with one application of Arg. Nit. in substance, but it would leave behind a scar not to be wished in the case of a young lady.

Hence, will proceed slower and apply—

℞. Potas. Caustici, Aq. distil., āā partes æquales, with a charpie pencil or brush, and follow it with—

℞. Arg. Nit. Sol., Conc., and cover the part with mercurial plaster. So soon as the parts destroyed fall off, we will repeat the process.

Case II. Lupus Vulgaris.—Patient is a boy five years old. Has a small patch of lupus on each cheek. Will again cauterize with Arg. Nit. in substance, and apply mercurial plaster. Has had three applications and is nearly healed.

Case III. Eczema Capitis. Patient a female of 60 years. The disease covers the head, forehead, ears, and extends to the neck, in the form of yellowish scabs and dry white scales, with a reddish cutis. The exudating stage is nearly passed. Is chlorotic. Did not have her periods until twenty years of age, and they usually continued a week. Is generally a disease of chlorosis. Ordered to smear the parts covered with crusts with oil, and paint the other parts with Ol. Cadini, daily, and wash the parts thoroughly with soap and water before the application.

Case IV. Sycosis.—Male aged 26. Has had the disease eleven years. Is sometimes called mentegra (we often call it Barber's itch). The disease consists in inflammation and suppuration of the hair sacks, and is generally confined to the beard, but sometimes extends to the cilia and hair of the head. The disease occurs under the form of an inflamed hair follicle, which develops into a pustule, which is penetrated by a hair or beard. The skin surrounding is swollen and œdematous in acute cases, and often exudates serum like eczema,* with which it is often confounded and combined. When several of these pustules occur near each other, they often combine and form a yellow scab, and may be mistaken for syphilis. But the removal of the scabs reveals no loss of substance, or but a very slight one, which is not the case with syphilis. The deeper tissues of the skin often become inflamed and give rise to numerous painful abscesses, which leave cicatrices and disfigurements behind, as in this case. The cause of the disease is not settled. Perhaps young hairs may press into the hair sack before the old one is cast off, and thus produce inflammation. The

* I have seen one or two cases of sycosis in Chicago, which had been treated for chronic eczema, syphilis, acne, tetter, and lupus; had taken large quantities of arsenic and other *standard* remedies, with no beneficial results, yet I am convinced they might be easily cured by this simple method, as I have seen so many similar case healed here in six weeks. F.

French school maintain that a parasite is the ætiological moment, but all their attempts in this school to find a parasite have been thus far in vain.

The treatment consists in applying Empl. Diachyl. Comp., q. s. to macerate and remove the crusts and epidermis. The face must be closely shaven every day, and the epulation or extraction of all the hairs perforating pimples or pustules undertaken. After which the ointment may again be applied, spread upon linen cloth. This process must be repeated every day. The treatment in most cases will scarcely exceed from four to six weeks. Persons having a beautiful beard, and not wishing to loose it, may be cured by the above process, omitting the shaving, but the time of treatment will be much increased.

When these diseased hairs are extracted, a new growth will follow them, but when left to die and fall out, they will never be replaced. Patients, when cured, will do well to shave daily for a year, otherwise a return of the disease will be liable to occur. Blepharitis is a disease the same in nature, and may be similarly treated.

Case VI. Syphilis, Scabies, and Eczema.—Female aged 45. House patient. Burrowings of the itch parasite are easily seen on the hands and breasts, and an almost universal eczema produced by scratching and irritation of the skin, while about the shoulders are circular patches of syphilitic ulcers, healed in the centre, leaving white cicatrices. Angina is visible in the pharynx, and the history speaks for a specific disease.

This patient has already had ten sublimate baths, and is improving rapidly. Can cure scabies by sublimate baths alone, but the cure is slower than the one ordinarily instituted for scabies alone. No special treatment is necessary for the eczema, as it will vanish with the cure of the scabies, and the cessation of itching and scratching. The patient remains in the bath two hours daily.

To each bath of simple water is added—

℞. Hydrag. Sublim. Corros.,---------- ʒij.
Ammon. Hdyro. Chlor.,---------- ʒss.
Aqua Fontis,---------- ʒiv.

Case VII. Eczema Capitis.—Female, 22, unmarried. Appearances much the same as in Case III. This is also in this case a disease of chlorosis. Patient is pale, though not badly nourished. Her periods began at eighteen, and now continue from six to eight days; are excessive also in quantity, and irregular. Appetite poor. In such cases there is often a deposit of pigment on the forehead and about the mouth. This disease or form of eczema, frequently occurs in anemic females. Women bearing children often have an outbreak of it after each delivery, which vanishes spontaneously, soon after again becoming pregnant. They have this experience year after year. Earrings are often the cause of eczema, which may spread rapidly over the head and face; hence, should always be removed in cases like this. Some cases will heal with their removal, without other treatment.

Patient ordered to apply oil to the head at night, wash thoroughly with soap and water in the morning, and afterwards apply Ol. Cadini. Also ordered a tonic of iron and quinine, and to visit the clinic again in one week.

Several other cases of scabies followed, of which I may speak in another communication.

Case VIII. Eczema Capitis.—Female aged 30. Head covered with whitish, or whitish-brown scales, with the skin somewhat reddened. Sometimes called pityriasis. She has also had irregular menstruation.

Apply daily—

℞. Tr. Rusci., ---------- ℥ss.
Alcohol, ---------- ℥iss.
Ether Sulph., ---------- ℥iss.
Misce.

Case IX. Eczema Manum.—Male, 40. Works in metal foundry, and brings his hands in contact with acidulated waters, etc., which has destroyed the epidermis in many places, while in others they are excoriated and fissured so that he is unable to shut his hands, or to continue his labor.

We might apply the ordinary unguentum diacyli as in cases of eczema on other parts of the body, but we will in this, as in

many other similar cases, order him to wear rubber gloves, which will soon render him able to continue his labor, at the same time he continues the treatment. They have the same influence in a great degree as most of the various ointments used in eczema, namely, macerated the epidermis. They should be worn day and night, bound about the wrist to prevent the entrance of air. They should be removed morning and evening, and cleansed with cold water, and the hands thoroughly washed with soap. They are one of the most effectual remedies we possess.

I believe I have mentioned, in one of my previous letters, the great disproportion between the number of students here, and the accommodations for them, in clinics, lectures, etc. The clamor on the part of the students finally became so loud that it resulted in a meeting of the faculty, and the adoption of some new regulations.

It was decided in this meeting that the lecture halls, etc., must be enlarged, or the number of student (about 1500) decreased. The government, however, was severely taxed to build new palatial barracks for soldiers, and to pay the expenses of the King's journey to Egypt, etc., and could not build a new University; therefore the number of students must be diminished.

Professors Hyrtl and Brucke have each from three to five hundred listeners, and only seats for about half that number. So it was decided that each professor should only inscribe as many students as he had seats; moreover, that the price of lectures for foreigners should be doubled, and no more scholarships or free tickets be given. Whereupon the students of Austria proper called a meeting, and petitioned the faculty to consider the Hungarian students, who are in the majority, foreigners, which was impolitic at this time, when so great efforts are being made to affiliate the two countries.

I also hear to-day, that the faculty decided at a late meeting to entirely do away with private courses, given by assistants, as many of them receive a larger salary than the professors. One assistant told me he had made about 5000 guilders, by giving

courses in the previous year. In their stead, courses will be given by "private docents," men who have served their time as assistants, and are now practicing in the city.

Much of the above I have simply heard among the students, and may be only rumor; hence will stand subject to correction upon better information.

Opening abscesses and buboes under water, and applying plaster Paris, is being tried here with quite satisfactory results, so far as I can learn. F.

Correspondence.

PUERPERAL FEVER IN COOK COUNTY HOSPITAL.

MEDICAL EXAMINER: — The following is a report of a committee appointed at the regular meeting of Medical Board of Cook County Hospital, January 31st, 1870, to investigate the causes and management of the recent epidemic of puerperal fever in this hospital, and read at the regular meeting of the Board, February 28th, 1870; and on motion, ordered published in the medical journals of this city, and a copy furnished the Medical Society. T. D. FITCH,

Secy. Med. Board Cook Co. Hospital.

TO THE MEDICAL BOARD OF COOK COUNTY HOSPITAL:

Gentlemen: — The undersigned, appointed a committee at your last meeting, to investigate the management of the lying-in wards of the hospital, during the prevalence of the late epidemic of puerperal fever, beg leave to report: — That the resources of our art for the prevention and in the presence of such epidemic manifestations may be briefly stated as the following:—

1st. Cleanliness of persons, and clothing, and apartments of the lying-in women. Ventilation of the wards; disinfection and removal of any sources of putrid effluvia; avoidance of

the results of overcrowding; a properly regulated temperature, and appropriate alimentation.

2d. These means failing to prevent the occurrence of cases of the disease, in addition to them, it now becomes necessary to isolate the patients, as promptly and completely as practicable, to make the disinfection and ventilation, if possible, yet more thorough, and on failure of these means, to arrest the disease among the parturient patients.

3d. It then becomes necessary to vacate the wards and refuse admission to this class of patients, experience proving that the risk is too great to continue their occupancy.

4th. This disuse of the wards should be for such length of time, and seconded by such renovation, cleansing, and disinfection, as experience proves most efficient, in thoroughly removing any real or suspected sources of infection from the wards themselves, the walls, ceiling, floors, etc., and all they may contain of clothing, furniture, etc. The treatment of such cases as do occur, notwithstanding these precautions, is so well settled that it is unnecessary to refer to t in detail; suffice it to say, that the indications to be filled by sedatives, counter-irritants, and opiates, and in toxæmic cases, eliminates with such special modifications as particular complications demand; finding their indications in sound pathology and therapeutics is the practice of the most authoratative names in gynæcological science.

In the light of these principles, your committee has thoroughly investigated the facts in regard to the late epidemic prevalent in the hospital, and find they have been fully and faithfully observed. That scrupulous cleanliness, thorough disinfection, isolation of the patients, so far as practicable, and vacation of the wards were all effected, at such times as were proper and necessary. That the whole house has been thoroughly whitewashed twice, and the lying-in wards three times, since these cases began to appear. That such disinfectants as chloride of lime, carbolic acid, spray of permanganate of potassa, and solution of chlorinated soda have been freely and persistently used. That the methods of treatment put in prac-

tice were such as have already been noted, and that in their results the most favorable effects were witnessed, notwithstanding formidable obstacles, which we beg leave to bring to your notice.

It is well known by all familiar with the classes of lying-in patients to be found in a pauper hospital, that they are, from the first, in notoriously unfavorable conditions, for a safe and normal termination of gestation; the immense majority being either the unfortunate victims of seduction, abandoned to hardship and exposure, depressed and debilitated by moral and physical causes, more or less intense and long-continued, or women of abandoned and depraved habits of life, intemperate and exhausted by venereal excesses and diseases, arriving at the hospital as a last resort, having failed of all other means of existence, while it is the exception and not the rule to meet with women in average favorable moral and physical conditions for the act of childbirth. Under these circumstances, if we add to the gravity of this dangerous disease these unfavorable conditions, we should naturally expect a very high mortality, even with the most skilful treatment; which your committee is happy to announce, in this instance, as being much less than could reasonably have been anticipated. In effect, from August, 1869, to February, 1870, the period during which the epidemic influence has principally made itself felt, the number of cases of puerperal fever occurring was 16, of which 10 recovered and 6 died; a lower death-rate than can be shown under like conditions in any published report with which your committee is familiar. And your committee would further and finally report, after careful investigation, that any representations of neglect or mismanagement of this department of the hospital can owe their origin only to one of two circumstances, *viz.:* ignorance of the facts or their wilful falsification. All of which is respectfully submitted.

THOS. BEVAN, M.D., *Chairman,*
W. H. BYFORD, M.D.,
EDWIN POWELL, M.D.

Selections.

CLINICAL LECTURE ON SCARLET FEVER.

By Sir WILLIAM JENNER, Bart., M.D., F.R.S., Physician in Ordinary to H.M. the Queen; Professor of Clinical Medicine in University College, and Physician to the Hospital.

Gentlemen:—Cases of scarlet fever are not usually admitted into the wards. There is, in fact, a rule of the hospital by which they are excluded, on account of the disease being contagious. But it happened, not long ago, that some cases were admitted by accident, and one child sickened of the disease while in the hospital. I shall take this opportunity of bringing those cases under your notice, together with some others, which will, I hope, impress upon your mind all the most important points to be remembered in regard to this very common disease.

The contagious diseases of this class will form a large proportion of the acute diseases you will see in your after-life, and it is unfortunate that the great hospitals afford you no opportunity for studying them clinically. And this consideration makes me especially desirous of lecturing to you on these cases.

To-day, I shall refer to cases in which the scarlet fever was free from complication, though the general disease—the scarlet fever—ranged in degree from the most trifling affection to one grave enough to kill. The disease in all these cases, however, was scarlet fever, pure and simple, the throat affection even being trifling in degree. I will first read to you the abstracts of some cases.

A child eight years old was in the hospital, when, on Sunday, Nov. 15th, she complained of not feeling well, and was feverish; her skin, that is to say, felt hot, and her throat was sore. In the evening of the same day, her neck and face were very red, and on the next day, Monday, she was covered with the scarlatina rash. The tonsils were then bright red and swollen. Her temperature was 101.2°, three degrees higher than in health. On the Wednesday, the rash was almost confined to the trunk and legs—*i. e.*, it had faded on the upper part of the trunk, and the upper extremities, and had spread downwards to the legs. Her tonsils were still swollen, though no longer red; her temperature was 100°. On the Friday, the rash had almost disappeared from the legs, and on the Saturday, it had gone altogether. Her temperature, however, was still 100°, and it

continued at that height till Monday, after which it became natural. Her skin was now quite dry and harsh, and there was slight desquamation of the cuticle—that is to say, a separation of the epithelium. This girl affords us a typical case of mild scarlatina.

I will now read to you another case of the same kind. This patient was also a girl, and of the same age.

On a Saturday, she complained of sore-throat; on the next day, the sore-throat continuing, she was very chilly. On the Monday, she had a rash on the face, neck, and chest. On her admission into the hospital these parts were covered with a brilliant scarlet eruption, somewhat elevated and punctiform. On pressing the skin, the redness disappeared, returning when the pressure was removed. The temperature of this girl was also 101.2°, three degrees higher than natural. This was on the third day; for she was taken ill on Saturday, and in these diseases we always reckon the day on which patients were taken ill as the first day. On Tuesday, the fourth day, the rash was less brilliant on the neck, face, and chest, but was very brilliant on the abdomen and legs, again spreading downwards. The tongue was covered with a thin white fur in the centre, but it was red at the tip and edges, and the papillæ were very prominent. The throat was very painful, and the soft palate and the fauces generally were much redder than they should be. The uvula was large and somewhat œdematous—*i. e.*, its loose cellular tissue was the seat of effusion of serum. The tonsils were swollen, but there was no exudation upon them. The temperature was 100°. The glands at the angle of the jaw were large and tender. On the Wednesday, the rash on the legs was darker, more dusky, and more patchy. The temperature was now only 99.8°, still, however, decidedly higher than normal. On Thursday, the rash was almost gone, and desquamation had commenced. The tongue was clean, but red. One tonsil was still swollen, but the child had no soreness of throat. On Friday, the seventh day, the skin of the legs was still dusky, but desquamation was progressing; the abdomen felt rough; the temperature was 98.6°, nearly natural. The child was well. There was no albumen in the urine at any time. The pulse was at first a little more frequent than natural, but in neither of these cases was there any other point which it is important for you to know.

Here, again, is the note of another case, very like those I have related to you, but in one particular a rare case. I have seen several such, and believe they are more common than is

supposed. It is a case of relapse; the patient had scarlet fever twice in a short time.

A young woman, twenty years of age, was not quite well on a certain Friday, and on the Saturday, she had sore-throat, and also a symptom which I have not yet mentioned to you, vomiting—sore-throat and vomiting. On the Sunday, Monday, Tuesday, Wednesday, Thursday, and Friday, she was covered with scarlet-fever rash. On the Saturday, the throat was well, and by the Sunday, there was no trace of the rash. On the Sunday following, she was considered quite well. This was May 7th. Now, on Friday, the 19th of May, nearly a fortnight after she was considered quite well, and nineteen days after the disappearance of the rash, she again felt poorly, and complained of frontal headache and nausea. On the Saturday, she had sore-throat, and the same evening the punctiform scarlet-fever rash again came out. On the Monday, there was an abundant rash and sore-throat. On the Tuesday, the rash was growing faint on the trunk, but was fully out on the lower extremities. There was no more complaint of the throat, and the young woman rapidly recovered. As a rule, the second attack runs a short course; but I have seen a patient die in the relapse.

You will note in all these cases, which are simple scarlatina, that the illness came on abruptly; the patient "took ill" at once. In all of them, too, the first symptom was sore-throat. That was the first thing definitely complained of. This is especially the case in adults; but you have here two children, whose first complaint was of their sore-throat. The suddenness with which scarlet fever often commences is well illustrated by the description which a patient once gave me of its commencement. She said: "I was quite well when I went down stairs to fetch some water. Crossing the yard, I felt my throat was sore." That was the first intimation that she was ill. Then rapidly follow the other symptoms.

Another symptom present in one of our cases, and which is very commonly one of the first symptoms, especially among children, is vomiting. Vomiting, when very severe and frequently repeated, is said to indicate that the throat will suffer severely, and certainly I have seen some cases which support this opinion.

Another common symptom which you have heard mentioned is frontal headache. In the whole class of diseases of which scarlet fever is a type—*viz.*, the acute specific diseases, headache is common, and it is nearly always frontal. Why it is so, I don't know. It has nothing to do with the mucous membranes

of the frontal sinuses, though it used to be thought that it had. There is the same headache in typhoid fever, which does not specially affect the mucous membrane of the nose or pharynx; the same in typhus, and in all these diseases. Febrile disturbance with frontal headache should at once awaken in your mind the suspicion that it is with one of the diseases of this class that you have to do.

Again, in all these cases there was at the early part of the illness a little sense of chilliness. That is common. Much more rarely the patient has rigors—distinct shiverings—at the onset of the disease.

The temperature at the onset was not taken in any of our cases. Public institutions do not afford an opportunity of taking the temperature at this early period—the first day. But if you do take it then, you will find it very distinctly elevated—100° or 101°, or more; and the higher the elevation on this first day of illness, the more probable it is one of these acute specific diseases.

Those, then, were the first symptoms of illness in the cases I have related. On what day did the rash appear? In one of them there was some redness of the face on the first day, and on the second day the rash was out. In another it did not appear, or we had no evidence that it appeared, until the third day, when the child came into the hospital. The upper part of the abdomen was then, however, covered, so it is probable that it appeared on the preceding day. Thus in each of these two cases it is probable that the true rash came out on the second day. In the case of the young woman, although she was not very well on the Friday, the sore-throat did not begin until the Saturday, and so that was really the first day of the scarlet fever, and her rash was out on the Sunday—the second day. Again, in her next attack she had the sore throat on the Saturday, and on the Monday, she was covered with an abundant rash. Thus in all these cases the rash probably appeared on the second day of the throat affection.

The second day is the common day for the rash to appear in scarlet fever. In the great majority of cases, the patient having sore-throat on the Monday will have the rash out on the Tuesday. Though the second day is the usual date for the appearance of the rash, it is not uncommon for it to be out on the evening of the first day. Now and then it does not come out till the evening of the fourth day, and rarely it does not appear for a week. On any day, then, during the first week the rash may come out. It is said that it sometimes appears later still.

Remember, then, the second day for scarlet fever; the third day for small-pox; the fourth day for measles; the fifth day for typhus; the eighth day for typhoid fever. Those are the typical days. There are frequent deviations, however, in all excepting small-pox, the rash of which very constantly appears on the third day.

The rash in scarlet fever first appears, as it did in these cases, about the neck. Rarely there is a little flush about the face, but the true rash appears about the root of the neck. If you suspect scarlet fever, if the patient is hot and has scarlet lips and a little sore-throat, you throw back the clothes and look for rash at the root of the neck. In measles, you turn back the hair, and look at the margin of the hairy scalp for the first appearance of the rash. In small-pox the eruption appears first about the upper lip, and nose, the centre of the face. In typhoid fever, on the abdomen and thorax. In typhus, the place where the eruption occurs the earliest is often on the backs of the hands, but it occurs also on the trunk.

Note the character of the rash. It was punctiform. This is its character. It comes out in little scarlet dots, which become more and more numerous till they unite, and the whole surface is bright scarlet. The parts which constitute the dots are the most vascular parts of the skin, the papilæ, and the orifices of the follicles, and of the sweat-ducts. The rash is most abundant and darkest where the skin is roughest, on the outer aspect of the limbs. In addition to this scarlet rash, not unfrequently there are a few petechiæ, and that in cases running a perfectly satisfactory course. There are a few extravasations of blood into the substance of the true skin just under the cuticle. These occur most commonly where the skin is the thinnest and most delicate, as at the flexion of the arm. I mention the occurrence of these petechiæ for the benefit of the younger of you, who may think, when first they see a case of scarlet fever with some petechial spots, that the patient is about to be very ill.

So much for the appearance of the rash. Now for its progress. It begins, as I told you, at the root of the neck, and it spreads downwards over the arms and trunk. The parts most affected are usually a little swollen—the hands, for example, are a little puffy. The rash then spreads down to the legs, fading at the upper part of the body, just as it did in the cases I read to you for the purpose of impressing this fact on your memory. It passes down and goes out by the toes, if I may use the expression.

I told you that the rash usually appeared on the second day of the illness. On what day does it disappear? The rash disappears, even from the legs, in a typical case, by the seventh day of illness. You may say that it has a course of about a week from the first day of illness. In our cases it disappeared on the sixth or seventh day of the fever. In some books you are told that the rash disappears earlier, in some later; but you will find the seventh day a convenient day to remember. Other days, all being common, are the sixth, eighth, and ninth. Supposing the patient to have sore-throat on a Monday, the rash would probably be gone by the Monday following. It might disappear on the Sunday, or continue till the Tuesday, or even longer, though that is unusual. Now and then it disappears on the fifth day; now and then it continues till the tenth day, and in some cases it has continued even up to the fourteenth, fifteenth, and sixteenth days. Do not forget this. I have seen such cases myself, and so have most persons who have seen a great many cases.

Desquamation was mentioned as following the disappearance of the rash. Desquamation is the separation of the cuticle, of the epidermis. It commonly begins to separate from the neck, and sometimes will have separated there as a little furfuraceous, branny desquamation, at the time the legs are covered with the rash. Sometimes there will be no desquamation for some days after the disappearance of the rash. It is said usually to occur during or soon after the subsidence of the rash, within a week of its disappearance. Now and then, however, a longer time elapses before desquamation commences.

The patient is often, even in the most simple form of scarlatina, when the rash is at its height, pretty thickly covered with sudamina and minute milliary vesicles. Where these have been present the desquamation commences very early, and is very abundant. It is commonly stated that the desquamation is the throwing off of a poison by the epidermis of the skin. I see, however, no ground for believing this. It seems to me that the desquamation is rather due to a certain degree of effusion beneath the cuticle. With a lens you may often find innumerable vesicles where with your hand and naked eye you could detect none. I believe that the real cause of the desquamation is this subcuticular effusion of serum. We have evidence of the occurrence of effusion into other tissues in the slight swelling of the hands, so common during the disease.

If the desquamation is delayed, it is very common to find the first evidence of it about the roots of the nails. Where the

rash was very slight, where perhaps the patient was supposed to have had no rash at all, you may often know that the disease was scarlet fever by that condition. Perhaps one member of a family has had sore-throat, while the others have had scarlet fever; that one was poorly, but you did not think that he had the disease. About a week or ten days after the cessation of the illness, a little opacity of the cuticle round the root of the nails may be noticed, and then a little peeling there. That is almost conclusive evidence that the illness was scarlatina. Do not forget this. It has often served me in good practical stead in determining the nature of an illness.

The desquamation lasts, as a rule, about eight days, or a little longer. From eight to fourteen days is the common period; but occasionally it is a long time before the whole of the cuticle has separated—a month, six weeks, or even two months. The thick cuticle on the soles of the feet may be peeling long after the desquamation on the rest of the body has ceased—when the patient is perfectly well, and has been walking about perhaps for some time. This was strongly impressed on my mind not long since. A gentleman came to me who was invited to stay at the house of a friend. He said, "You know I have had scarlet fever; but it is two months ago. Am I safe from giving the disease to any one else? I ought to tell you that the skin has not yet finished coming off the soles of my feet." I examined his feet, and, finding his statement correct, forbade him going; for I thought he might still communicate the disease.

The desquamation, then, may be so slight as to be perceptible only about the root of the nail, or it may be so considerable as to cover the whole place with dust every time the patient shakes himself.

The lips are always scarlet in the earliest stage of scarlet fever, and this fact often gives an importance to the state of the throat. The tongue, as a rule, is also bright red, especially at the tip and edges. The papillæ are large, and stand out from the thin white fur with which the dorsum of the tongue is covered, just as you heard in the description of one of our typical cases. As the disease progresses the fur disappears, and then (as there was in one of our cases) a bright-red tongue, the epithelium having been thrown off.

The soft palate, and the uvula, and the tonsils are also bright red, the tonsils being swollen. The redness in the early stage is distinctly punctiform, and then the spots coalesce. You may sometimes see that the arches of the palate are vivid red, while there is punctiform redness on the hard palate. The mucous

membrane partakes of the eruption of the skin. It often does so in measles likewise; the inside of the lips and the hard palate being covered with eruption identical with that on the skin. I told you that the eruption in measles occurs on the fourth day; but on the second or third day, a day or two before it appears on the skin, the eruption may occasionally be found on the mucous membrane.

In one of our cases it was noted that the glands at the angle of the jaw were swollen and tender. This is according to rule. There is usually a little affection of the glands which receive the absorbents from the soft palate and tonsils. The affection of the throat is the cause of the swelling of the glands. If the throat were not affected the glands would not be swollen. We shall see presently that this is a point of considerable practical importance, and of a good deal of pathological interest. People speak of the scarlet fever process affecting the glands. It is not the scarlet fever process in the ordinary sense of the word—*i. e.*, in the same way that the scarlet fever process affects the soft palate and the skin. The lymphatic glands are affected secondarily to the throat, in consequence of the absorption of something from the surface of the mucous membrane; as much as a bubo in gonorrhœa is the result of the disease of the mucous membrane of the urethra; as much as a bubo in the groin, below Poupart's ligament, after a man has hurt his toe, is the result of the injury to the toe; as much as the swelling of the axillary glands, following a puncture of the finger, is the result of that puncture. You know it is very rare indeed for primary inflammation of the lymphatic glands to occur.

Then the temperature. You notice that it never reached any great height in these cases—100°, 101°. In very severe cases it is often much higher—104°, 105°, 106°.

It is common in cases as mild as these to have a little wandering at night, a little mental disturbance; and very rarely, even in a mild case, on the date of the appearance of the eruption there is an attack of convulsions.

The pulse in our cases never reached 120. It varied from 80 to 100. In scarlet fever the rule is that the pulse rises to a certain degree of frequency, and then goes down from that point. It does not, as in typhoid fever, go up and down, in one part of the day 120, in another 90, and the patient neither better nor worse—*i. e.*, you could not say because his pulse was less frequent, that he was better, or worse because his pulse was more frequent. In scarlet fever the pulse steadily rises, and then, if there is no complication, steadily falls.

In all the cases I related to you the constitutional disturbance was very moderate, and the local specific processes—that is the true scarlatinal processes in the throat and skin—trifling. Bear in mind, however, that in all the scarlet fever group—the acute specific diseases, typhoid, typhus, measles, scarlet fever, small-pox, erysipelas—in all this group there is no necessary relation between the severity of the local specific processes and the severity of the general disease, or between the severity of the general disease and that of the local processes. In our cases they were both mild. If there be a very severe local affection the patient will have a secondary constitutional disturbance due to the local process. If he has a bad sore-throat, he will have a constitutional disturbance dependent on the sore-throat, superadded to the constitutional disturbance of his scarlet fever. But he may have the most intense general disturbance and very little local specific process; the constitutional may be most severe when the local is trifling. The patient may die of the constitutional disturbance when the local process is trifling.

Thus, a man was admitted into this hospital, aged sixty-three. He had been the subject of much mental depression and anxiety. He had for some time lived and slept in the same room and on the same bed with his two children and their mother, all ill with scarlet fever. This man, after he had thus lived and slept in this way for seventeen days, began to complain, on a Sunday, of sore-throat, and on the next day (Monday) he was brought to the hospital insensible. He went in the morning to his place of business, and while there became insensible. When admitted here his respirations were 44; his pulse could not be felt; the surface of the trunk was mottled dusky-red; the outer and posterior aspect of his arms was dusky-red—just the part where the scarlatina eruption occurs and goes most deeply, where the skin is roughest. He rallied about an hour after his admission, so far that his pulse could be counted: it was then 120. His tongue was dry, glazed, and brown. Two hours later there was more duskiness and numerous petechiæ, not merely at a particular part, but over the skin generally. He died at 3 A.M., on Tuesday. On the Sunday, he had sore-throat; on the Monday, he was taken at once with the active poison; and on the Tuesday, at three o'clock in the morning, he was dead. After death, what did we find? Numerous subserous and submucous petechial spots under the endocardium, under the pericardium, under the pleura, under the peritonum, under the mucous membrane of his stomach, under the mucous membrane of his bowel—everywhere small extravasations of blood. His

tonsils were large; there was vascularity of the pharynx; and his spleen was enlarged. That is one of the features of scarlatina; as it is of all these diseases—typhoid, typhus, measles, small-pox, scarlet fever, erysipelas: in all there is softening and enlargement of the spleen.

We examined this man most carefully. I have here long notes of the state of every organ in his body, the microscopic as well as the naked eye appearances of each; but we failed to discover anything more than I have mentioned to you. He died from the poison of scarlet fever. There was no lesion of the heart, brain, lungs, or kidneys, to account for his death; he died from the general condition.

Again, a young woman, aged twenty-one, had been ailing for some time with some soreness of throat, sometimes better, sometimes worse; but she had been subject to sore-throats, and not much importance was attached to this particular attack. On Monday, June 10th, she felt ill, and had increased soreness of throat, but was still able to go out. She passed a restless night and was decidedly ill on the morning of the next day (Tuesday). On the Tuesday night, she was very bad, tossing about, but not delirious. On Wednesday, however, she was violently delirious; several persons were required to keep her in bed. All that night she was violently delirious. On Thursday morning, she was insensible; and on Thursday afternoon, I saw her. She was then lying on her back, inclined to the right side, resisting all efforts to move her. Her conjunctivæ were considerably injected, as they are in all these cases. It seems as if the capillary circulation generally were in some way interfered with; all the vessels are loaded with blood and very little circulation going on. Her pupils acted but little. She muttered incoherently, but was quite unable to be aroused so as to exhibit consciousness. She passed urine into the bed freely. There was a thin sero-purulent discharge from the nose and ears. There was no swelling of the glands. She had a dusky-scarlet rash on the trunk and upper extremities; none on the lower. Her pulse was 180, very weak. Subsequently she became again violently delirious, and died at 10:30 P.M. She was taken ill on the Monday, and died on the Thursday night. At the *post mortem* nothing more was found than in the last case.

Another case of the same kind. H. B——, a very fine young man, six feet high, and broad and large in proportion. We could get no history of his illness, but he came under observation on October 13th. He had had no sleep on the preceding night, and when I saw him he was delirious, leaving his

bed and wandering about the ward. He said that he had been in the hospital four days. Note that in the whole group of these diseases there is a tendency on the part of the patient to lengthen time. He nearly always thinks it a longer time since you saw him last than it really is. Everything seems long to him. It is not so in some other acute diseases—in pneumonia, for example; but in this class of diseases—the acute specific—although the patient answers you quite rationally, and tells you correctly the day on which he came into the hospital, he thinks he has been in a much longer time than he really has.

The expression of this man's face was natural. He had no headache. He was able to leave his bed alone and easily. His tongue was moist and furred, not particularly red. He complained of some soreness of the throat, but swallowed without any difficulty. He had no cough. His skin was hot and moist, and covered over the chest and abdomen with a bright scarlet rash, which disappeared on pressure. On the arms, legs, back, and beneath the clavicle, the rash was more dusky; and, after pressure, minute purple spots (petechiæ) were perceptible over the whole of the body. On the night of the 13th he was violently delerious; a man had to be with him to keep him in bed. He was restrained with difficulty; bit and struggled with great violence. At five in the morning, he became quieter, his breathing became difficult about six, and at half-past eight he died.

On the 13th, the rash had not spread to his legs, so that we may suppose that he had not been ill above four days. His *post mortem* examination was made, and, as he died in the hospital, it was made very carefully. The notes of it which I have here, occupy eight closely-written quarto pages. I am not going to read them to you, for all that we found was just what we found in the last case—petechial spots under the mucous membrane of the stomach and the bowels, under the endocardium, under the pericardium, under the pleura. There was a little recent lymph at the base of the lung, probably of only a few hours' duration, and a spleen which weighed a pound and a half. There was a little congestion of his lung, such as might have resulted from his struggles; but beyond these appearances we found nothing.

Here is another case. A young man came under my care with a very little sore-throat, but covered with the rash, and with considerable febrile disturbance. After a violent fit of delirium, he sank exhausted, with a frequent, feeble pulse. He died in half an hour from the time he was running furiously about the ward. After death the appearances we found were

precisely what I have described to you—enlarged spleen, subserous and submucous petechial spots, and that was all. In these cases of death from the general disease, you will have observed that in several there was a full, free, and even bright rash.

Sometimes, in place of the rash being bright red it is more dusky. I told you it was dusky over part of the skin in one of the cases I have described. Sometimes there is more congestion of the lung. Sometimes, instead of violent delirium, there is muttering delirium. The girl, I told you, had muttering delirium, and then became violent again. Thus there may be extreme prostration instead of active delirium, or active delirium followed by extreme prostration. I have no account of the temperature in these cases, but it has been taken in similar cases, and has been found, it is said, to be high, very high; not, however, equal, so far as I am aware, to that which has been met with in acute rheumatism, but 104°, 105°, 106°. Some have supposed that in these cases the death is due to the high temperature. I am doubtful of that myself, in scarlatina. I think the death is due to the changed condition of blood. It is evidently very much changed, from the occurrence of the petechiæ; and the change in the tissues is dependent on the change in the blood. More observations on the temperature in these cases are required before its influence can be clearly admtited.

There are two other forms of scarlet fever, where there is only the general affection, to which you ought to have your attention directed; both are very mild forms. One of these is scarlatina without inflammation of the throat—*scarlatina sine angina.* I doubt its existence; that is all I can say about it. There are cases without soreness of throat, but if you look into the throat, in all the cases I have seen, there is distinct redness and swelling of the tonsils, at any rate—considerable abnormal vascularity of the fauces and pharynx. I have often known patients to say they had no sore-throat, but when I have looked I have always seen abnormal vascularity. So I do not believe in scarlatina without any throat affection.

The other form is scarlatina without any eruption. About this, too, I have some doubts. Of the other I speak from having seen a large number of cases in which the patients have vowed that they had no throat affection at all, and yet I saw it. The subjective symptoms were absent, the objective were present. But it is difficult to prove the absence of the eruption. Certainly people sometimes have the disease with a very little and a very transient eruption, just a little scarlet blush, lasting

a few hours, and probably there are some cases in which there is none.

Thus I have described to you cases of that form of scarlet fever in which the disease is the poisoned state of the system only, and I have described cases illustrating varieties of this form of scarlet fever, from the mildest to the gravest. In no case mentioned to-day was there any grave local disease—nothing complicating the general disease. What is the treatment of uncomplicated scarlet fever, with trifling local specific process? For scarlet fever proper, for the poisoned condition of the system, so far as I know, we have no remedy. There are those who say ammonia is the remedy; there are those who say that hydrochloric acid is the remedy; and so on with a variety of drugs. But at the present moment my experience tells me that we have no remedy for the general disease. We can only act upon the broadest general principles of calming the patient when excited; of stimulating him, to keep his heart beating, when he is exceedingly weak; of cooling the surface when the heat is excessive. Give him pure, fresh air to breathe. It is a disease that runs a definite course, and if you can keep the sufferers alive for a certain time they get well from that general disease which killed some of our patients. So you watch for the symptoms which threaten death, and endeavor to avert them. The *very* grave cases are hopeless from the first. For the mild cases little treatment is required. A cool room, light clothes, unstimulating diet, a mild aperient, a little chlorate of potash, which seems to allay the irritation or inflammation of the throat, and that is all you need do. Some give a little dilute mineral acid; sulphuric acid was all that used to be employed at the Fever Hospital when I was there. I think myself that the best is the chlorate of potash drink. I put a dram of the salt into a pint of barley-water, and let the patient sip it down as he pleases.

You will see that it is very different when I come to speak of the complications of scarlet fever. For some of the aggravations of the acute specific process, for some of the throat affections, we may do a great deal, and there we often save life directly; but for the disease itself, that which is the root of the matter, I repeat, so far as I know, you can do nothing. By the chlorate of potash you may do something toward allaying the throat affection; by a mild aperient you may allay a little the febrile disturbance which would be increased by confined bowels; by keeping the room well ventilated you prevent any increase of fever from the room becoming too close, and its air

impure. And all the time you must watch the state of the urine, the skin, and the throat. One point I desire to impress on you—namely, the great importance of changing the clothes of the patient, as well as the air of the room. The blankets of the bed should be changed frequently, as well as the body-linen and sheets.—*Lancet, Jan. 8th, 1870.*

TRANSACTIONS OF THE OBSTETRICAL AND GYNÆCOLOGICAL SECTION OF THE 43D CONGRESS OF THE GERMAN PHYSICIANS AND PHYSICISTS, AT INSBRUCK, SEPT. 18–24, 1869.

By JAMES T. WHITTAKER, Cincinnati, Ohio.

Schmidt's Jahrbucher, Nov. 30, 1869.

Four sessions, under the Chairmanships of Prof. Lange, Heidelberg; Prof. Spiegelberg, Breslau; Dir. Birnbaum, Cologne; Prof. Späth, Vienna; respectively.

Essays—Prof. *Lange*, on a case of "Cæsarian Section, from a Pelvis with the Transverse Contraction," to be fully published in the *Monabschift f. Geburtskunde.*

Prof. *Spiegelberg*, on the "Value of the Induction of Premature Labor;" according to his own experience (305 cases in the clinic and polyclinic of Breslau), and according to that of others, the induction of premature labors does not afford the results which are usually expected, since it is not to be practiced in pelves of 3 in. conjugate and over, and is only admissible in greater contraction when previous labors have been characterized by large resisting heads, or unfavorable presentations, or when great injury might ensue to soft parts already in disease. The habitual occurrence of death in the two last months of pregnancy, presents no indication, since this accident is caused by hereditary syphilis, which the interruption of pregnancy does not destroy. The premature induction is only justifiable in disease of the mother, caused or aggravated by pregnancy, and only then when there is hope of rescue to the mother's life. As regards the termination of the birth, with or without induction, in answer to Prof. Dohrn, Sp. remarked that he had had unfortunate results in three cases, in the same patient. The reason that more favorable results occurred in private practice than in clinics, seemed to depend upon the more frequent examinations, by the students, in the latter case. Dr. *Birnbaum* had observed habitual death of the fœtus in chronic induration of

the cervical mucous membrane, and had applied injection of cup. sulph., in the interval of two pregnancies, with success. Prof. *Hegar*, Freiberg, agreeing with Prof. Sp., in regard to premature delivery, had also noticed habitual death without syphilis, and had observed, after catheterism and injections into the uterus, inflammatory affections, even with fatal termination.

Prof. *Breisby*, Bern, "On the Condition of the Cervix during Labor." Physiological softening arises, with lengthening and paralysis, caused by the pains and by pressure of the membranes, as well as by the presenting parts. He had found, by measurement with the finger, a lengthening of even 6 ctmtr., and called attention to the importance of the cervical condition in originating flexions in the puerperal bed. Rupture of the cervix is often caused by physical peculiarities of its tissue.

Prof. *Freund*, on "Parametritis chronica atrophicans," an affection, in its anatomical sub-strata, but little known, from its symptoms, called hysteria. (To be published in full.)

Prof. *Dohrn*, Marbury, on the "Tubes of Müller and the Development of the Uterus." From the various examinations of human and animal embryos, the following conclusions are drawn: *a*, The coalition of the tubes of Müller begins between the middle and lower third of the genital cord, advances, then, upward and downward, but downward faster; this accounts for the fact that separation often exists in the upper portion of the female genital cord. *b*, The left tube lies higher, generally, than the right, and the coalition occurs in this oblique position. The pressure of the intestinal extremity, on the left, is the cause of this elevation, which thus explains the frequent version of the uterus on its axis, so that its left border is turned forward. *c*, In man, the coalition occurs early, being finished in its entire course by the end of the second month of embryo life.

Prof. *Spiegelberg*, on the "Diagnostic Significance of the Puncture of Ovarian Tumors." Of more importance in the differentiation of cysts of the ovary from those of other organs, of less for a distinction between the different kinds of ovarian cysts themselves. Of particular value is the exploratory puncture for the differential diagnosis of ovarian cysts from ascites; besides the greater quantity of albumen, and the multitudinous forms of epithelial structure, he denotes as characteristic for ovarian cysts the absence of the fibrogenous substance present in peritoneal exudation with the clot (gerinnsel) formations dependent thereon; as well as of the movable amœboid cells. He regards the tentative puncture as irremissible, before every attempt at radical cure, although it is not always so innocent

as is generally believed, and in this he is corroborated by Prof. *Hegar*, who has seen the discharge continue, and a blood effusion occur in the emptied space, with fatal termination, and this from a puncture of the cyst, through the vagina, with a very fine trocar.

Prof. *Kehrer*, Giessen, demonstrated the "Mechanism of several Pelvic Deformities," on two caoutchouc pelves, decalcinated with nitric acid. The form of the flat rachitic pelvis is caused by the weight of the body, and the counter-pressure of the femora, upward traction of the spinal extensors on the extremity of the sacrum (with diminished action of the abdominal muscles), and traction of the rotators on the coccyx. The osteo-malacic pelvis originates, besides from pressure and counter-pressure of the body and femora, from relaxation of the spinal extensors and the quadratic lumborum, with secondary increase of their antagonists, the muscles of the abdomen, the median fasiculus, and the illiaci. The oblique oval pelvis is due to the fact that the weight of the body is supported in the direction of the distantia sacro-condyloidea, the cyphotic oblique contraction, by upward and downward pressure, in the direction of the base of the sacrum. According to Dr. *Freund*, Breslau, the sacrum is thinner in the rachitic pelvis, and longer anteriorly than posteriorly, because the burden of the body is not transmitted through the bodies of the vertebræ, but through their oblique processes. *Kehrer* explains the convex form of the anterior sacral surface in the rachitic pelvis by the diminished firmness of union of the intervertebral discs, permitting a version of the sacrum and a change of form, so that its angle is directed backward. The great flattening of the anterior wall of the pelvis in rachitis, as compared to the beak form of osteomalacia, finds an explanation in the fact that the softening process in the former affects to a greater degree the extremities of the bones, while in the latter, the process is more universal. Prof. *Hegar* considers the traction of the muscles as less effective because it implies a greater (not demonstrable) activity of their contractile power. *Kehrer* explains the symmetrical traction of the spinal muscles, by the coincident relaxation of the abdominal muscles in the rachitic child. *Birnbaum* saw a case of the oblique contraction caused by tight lacing.

Dr. *Schutz*, Leipzig, on the "Mechanism of Comparative Labor." (To be published in full.)

M. R. Kuchenmeister presented several gynæcological instruments. (*a.*) A pair of scissors, with a projection at right angles on one of the blades, to gauge the extent of the section of the

portio vaginalis, and to avoid making it shorter than designed. Prof. Speigelberg found the action of the scissors certain, but they caused often a severe hemorrhage, by tearing the tissue, a hemorrhage which might render the application of cauterization necessary, and this leads to parametritis. K. believed that tearing might be avoided by a careful section. (*b.*) A curved trocar, for the puncture of hematocle, which might also arise from an escape of blood from the accessory tubes often (?)* found, or from the orifices of the Fallopian tubes during menstruation.

Prof. *Kehrer* maintained that an effusion of blood could only originate from the Graafian follicle, or, *pathologically*, from the mucous membrane of the tube; an escape from the uterus through the tubes is very improbable, on account of the slow discharge of the fluid. Prof. Freund inserts a short trocar, thicker at its upper extremity, and lengthened by a catheter, and leaves it there. (*c.*) A forceps for the removal of polypi out of reach of the finger.

Prof. *Spiegelberg* on "Galvano-caustic Operations on the Uterus." Amputation of the collum uteri, with the knife, especially for carcinoma, is followed by very severe hemorrhage, with the ecraseur, hemorrhage is generally, though not by any means always, prevented, but the neighboring parts suffer from pressure. The disadvantages mentioned are avoided by the galvano-caustic noose. The wire must be applied as nearly as possible to the vaginal insertion,† and to effect this, a spatula-shaped instrument will prove of service. The noose is to slowly attain a white heat, and to be allowed to slowly cut its way through, whereby it leaves a smooth surface of good granulation. The operation induces no hemorrhage of mention, and is not painful, indeed the heat will not be even perceived if cold water be played upon the field of operation. In carcinoma, the operation is only palliative, as return has always been observed.

Regarding intra-uterine galvano-caustic treatment, Sp. re-

* According to the observations of Richard, besides the regular orifice, there occur in certain cases other lateral openings, also provided with fimbræ. He found them five times in thirty cases, and either in the neighborhood of the proper orifices, or in the middle of the tube. In one case, the lateral opening conducted into a short membranous tube, communicating with the Fallopian. I have lately discovered such a lateral orifice in immediate proximity to the proper *ostium abdominalæ tubæ.—Hyrtl Anatomie des Menschen.—*[*Trans.*

† Another decided advantage of the galvano-caustic noose is the comparative impunity with which a portion of the peritonium may be removed, where the disease is so extensive as to involve the supra-vaginal cervix. We can recall a case in Prof. Braun's clinic, at Vienna, wherein a full square inch was abstracted, and the patient recovered.—[*Trans.*

marked that he was opposed to intra-uterine treatment in general. In any case, dilation must first be effected. This is best done with the sponge tent. He had seen metritis and parametritis follow the injection of alkalis and iodine, more seldom, however, the use of argent. nit., and other astringents of more superficial action. In blenorrhagia and hemorrhages from endometritis polyposa, he had cauterized the uterine cavity with a porcelain burner, curved like the uterine sound, but he had always interrupted the current as soon as the patient complained of pain In no case had he observed any great reaction. For the first few days after the operation, no discharge existed; later, profuse and mixed with blood; this, however, ceased entirely within fourteen days. Prof. *Lange* and *Hegar* confirmed Sp.'s experience regarding the ecraseur in cervical amputation. *Hegar* prefers the knife and scissors, as easier manipulated, and as accelerating cure, and advises that the incision be made oblique and funnel-shaped (trichterförmig). To quell the hemorrhage he employs the suture of Sims, uniting the mucous membrane to the vagina at its insertion; further compression is not necessary. *Spiegelberg* considers the funnel incision with the suture as adaptable in simple elongations, but not in severe carcinomatous degeneration, where recurrence is to be feared. *Hegar* responds that he first removes the main mass, and then carries the incision into the cervix; the suture certainly does not effect union in carcinoma by prima intentio, but it is a good hemostatic, and renders compression and tampon superfluous. Prof. *Spath* confirms, in general, the disadvantages of the intra-uterine treatment of flexions; he agrees with Sims, that the uterus bears the bloody better than other procedures; the unfortunate results with the laminaria remaining unpublished. Dr. *Zini*, Graz, had seen two cases of unfavorable termination with the laminaria, and Dr. *Hugenberger*, Petersburgh, had observed a pyæmic condition result in one case, after its use. In flexions, he employs the sound of Simpson, which is well borne, when of proper length, and properly applied.—*Lancet and Observer.*

Hypodermic Use of Iodine in Goitre.—Prof. Lücke (*Braithewaite's Retrospect*) treats goitre by injecting hypodermically four or five drops of tincture of iodine, and repeating the injection every eight days or so, gradually increasing the quantity.—*St. Louis Med. Archives.*

Proceedings of Societies.

MINUTES OF THE THIRD ANNUAL MEETING OF THE ALUMNI ASSOCIATION OF THE CHICAGO MEDICAL COLLEGE.

The members of this association met in the lecture room of the College, at 4½ P.M., March 22d, 1870. Dr. Julien S. Sherman, President, occupied the chair.

Minutes of previous meeting read and approved.

Interesting papers were read, from Drs. G. Wheeler Jones, Stacy Hemenway, George H. Fuller, T. G. Williams, J. L. Kitchen, and others.

The report of the committee on prize essays was then read.

Report of Committee on Prize Essays.

The undersigned committee, appointed to examine such essays as might be presented for the prize of $100, offered by the Alumni Association of the Chicago Medical College, respectfully report: That but two essays were placed in the hands of the committee, within the time specified by the association. One of these, bearing the motto, "Amicus Humani Generis," presents a very creditable resume of the history, varieties, diagnosis, pathology, and treatment of typhoid fever. The other, bearing the motto, "Cereless A. B.," presents a good summary of our present knowledge concerning trichinæ and trichiniasis. Both essays would do credit to their authors, as contributions to some medical periodical; but neither embodies the results of such original investigations and research as would justify your committee in recommending the award of an important prize. We, therefore, recommend that the offer of the same prize be continued another year, hoping that a more extended competition will be elicited thereby. Respectfully submitted,

N. S. DAVIS,
E. ANDREWS,
H. A. JOHNSON,
WALTER HAY.

Chicago, March 22, 1870.

The essays are in the hands of the Secretary, awaiting the direction of their authors.

It was moved and carried that the report be accepted, the recommendation adopted, and the committee requested to serve another year.

The annual address, by the retiring President, Dr. Sherman, was listened to with marked attention, and elicited hearty applause.

On motion of Dr. D. A. Sheffield, of Apple River, Ill., a Necrologist was elected, whose duty is to collect all the history possible, of each deceased member of the association, and shall from such data write a biographical sketch of the same, which shall be read at the first subsequent annual meeting of the association, and be published in its reports. On motion of the same, the Secretary and Necrologist were elected to hold their office during their membership in the association.

The Secretary's report showed that 37 graduates of the College were practicing their profession in Chicago.

Elections resulted in choosing the following officers:

President, John M. Woodworth, M.D., Chicago, class '62.

1st Vice-President, D. A. Sheffield, M.D., Apple River, Ill., class '67.

2d Vice-President, C. C. Reichard, M.D., Monmouth, Ill., class '70.

Secretary and Treasurer, S. A. McWilliams, M.D., Chicago, permanent.

Necrologist, Norman Bridge, M.D., Chicago, permanent.

No further business appearing, the association adjourned.

I take great pleasure in informing the Alumni that $100 is offered for a prize to that member of the Association who shall present the best essay on some medical or surgical topic. The subject of the essay to be left to the option of the competitor. All are members who have paid their yearly dues of one dollar. Any Alumnus not now a member can become one by sending his name and one dollar to the Secretary, which it is hoped every one will do. The committee on competing essays consists of N. S. Davis, M.D.; E. Andrews, M.D.; H. A. Johnson, M.

D.; and W. Hay, M.D. Each essay must be designated by a device or motto, and must be accompanied by a sealed envelope bearing the same device or motto, and containing the name and address of the author. The envelope belonging to the successful essay will be opened, and the name of the author announced, at the next annual meeting of the Association, also, at the next annual commencement of the College, in 1871. The competing essays must be sent in to the Secretary of the Association on or before the 15th February, 1871. It is expected that the prize essay, and others of marked value, will be published in pamphlet form, and furnished to members of the Association. You are earnestly urged to become a member of the Association, in full standing, by sending one dollar to the Secretary and Treasurer.

S. A. McWILLIAMS,
Permanent Secretary and Treasurer,
166 State Street.

ADDRESS OF PROFESSOR JULIEN S. SHERMAN, DELIVERED BEFORE THE ALUMNI ASSOCIATION OF CHICAGO MEDICAL COLLEGE.

Alumni of Chicao Medical College:

Gentlemen: — This day closes another year in the history of this Association. We meet for the purpose of renewing the social acquaintance that we formed during our student life. To see the faces and hear the voices of those who, from the noisy medical students, have been transformed into reliable and useful physicians; to take each other by the hand and feel we meet as friends, bound by a common bond of interest in our *Alma Mater;* and as workers in our profession we should come together in perfect harmony. The unmanly tongue that resorts to slander and falsehood should be quiet when it enters here. The science of medicine needs in its ranks those who are searchers of truth. There should be no trickery of Pathys here. The term physician is too noble a word to be disgraced by any such modification. It comprehends all that is known of the laws of health and disease.

He who skilfully uses this knowledge, and confers the greatest benefit to his patient, is the true physician. It becomes the duty of us all to strive that we may merit this title, in its proper signification. To do so we must first be diligent; success will seldom follow those who do not help themselves. Cultivate a friendly and courteous disposition towards your brother practitioners. Do not let the evil spirit of jealousy find a place in your heart. You can never build a monument to yourselves upon the ruins of others. Treat all your patients with kindness and truthfulness; they ask for your skill and expect your sympathy. Communicate to the profession the result of your experience and investigation, so that each of you, during his life may add something to its general stock. This is a duty you owe to the science for its generosity in freely opening its store-house to you. You have the accumulation of ages at your disposal, and you should add something to it, that those who come after you may be benefited by your labors.

Do not be discouraged by reverses. The path to success is not all smooth; there are many rough and rugged places to pass over; but let them arm you with greater zeal, and at last, with such effort you will conquer, and make your lives a pleasure to yourselves and useful to all around you.

Steadily has our *Alma Mater* advanced in her prosperity. The ground is already broken for the construction of an elegant building in connection with the Mercy Hospital, where her students may derive all the benefits which occur from the union of the lecture-room and the bedside of the sick. Her doors are open to all who wish to learn, and the opportunities for obtaining a medical education are extended to females desiring to pursue the study. She numbers at present such an one among her *ad eundem* graduates, whose medical ability is already established. Should others who follow her acquit themselves as she, our *Alma Mater* will never have cause to regret the step she has taken. Time will bring to her still greater progress, and our next annual meeting will be in what me may not inaptly call a new home. By extending her course and increasing her facilities for instructing, she strives to elevate the

standard of medical education, and give to the public, from her graduates, those who are gentlemen, scholars, and physicians. With such an object, her progress must ever be upward and onward; and we, her children, will always look back to her with gratitude and pride.

She will have a lively interest in you, and expect from each the deportment becoming the profession you follow.

The year has passed without bringing upon me the painful necessity of announcing the death of any of the members of this association. A Providence in whose hands all things are just has watched and preserved. May such be our record for many years to come.

To those who meet us to-day for the first time, in behalf of the Society, I extend to you an earnest welcome. As members of this body, we wish you to feel that you are identified with all its interests, and that you are under obligations to labor for its welfare. For its social standing, it must look to the conduct of its members; and each of you, as you come before the public, will exert your influence for good or evil. It is the little rivulet that forms the mighty river, and the single strokes that fell the oak.

Individuals form society, and each has a personal responsibility in its character. Either in person or by letter represent yourselves at the following meetings. I hope to see the day when these reunions will be attended by members, from every portion of the North-west, and that we will look forward to them as bright and happy spots in our lives. They will serve to keep up our interest in each other and as a recreation from the toils of professional life. As we develop, we can exert more and more our influence on the profession for good. And in helping onward this science, you are conferring a public benefit, which cannot be estimated in the weight of gold. Ask the parent how many dollars and cents will recompense for the loss of his child. What is the value of a useful limb! and what will you take for your vision? These, gentlemen, are materials which are not found in market quotations.

The safety of life will be placed in your hands, as you pass

through the world. How necessary it is that you keep yourselves well prepared to meet all emergencies? Every class look to your profession for help—the rich and the poor share its blessings, the strong and the weak are obliged to seek its aid. It carries its influence to the palace hall and to the pauper's hut. On it rests the hopes of loving ones, when disease and suffering enter their homes. You will be called to the mother's side when her babe is born, and you will watch the failing pulse of old age, as the heart that has worked so long grows weary and weak, and asks for rest.

Your fame will not equal that of the warrior or statesman, nor will your graves be crowned with stately monuments. Your deeds will be more hidden from the public; but when you are gone there will be memories of you that will last when marble and brass have crumbled to dust.

Gentlemen, we enter the fourth year of our existence with prosperous omens. Each meeting has increased not only the number in attendance, but the interest shown in the Association. Let each one lend his aid with a will, so that when we meet another year, we may be better and wiser men in the profession of our choice.

Book Notices.

The Cell Doctrine; its History and Present State. For the use of students in medicine and dentistry. Also a copious Bibliography of the subject. By James Tyson, M.D., Lecturer on Microscopy in the University of Pennsylvania, and on Physiology in the Pennsylvania College of Dental Surgery; Fellow of the College of Physicians of Philadelphia, &c. With a colored plate, and other illustrations. Philadelphia: Lindsay & Blakiston. 1870.

This is a small-sized octavo volume, of 150 pages, on excellent paper and type, with good illustrations. It presents a very interesting summary of the history and present status of the

doctrines concerning cell development and function. For sale by S. C. Griggs & Co., Chicago. Price $2.00.

A Manual of Clinical Medicine and Physical Diagnosis. By Thomas Hawks Tanner, M.D., F.L.S., &c. Third American from the Second English Edition. Revised and enlarged by Tilbury Fox, M.D., London, Physician to the Skin Department of the University College Hospital. Philadelphia: Henry C. Lee. 1870.

This is a neatly published duodecimo volume, of 366 pages. It will be found a very convenient and useful little manual, especially for advanced students and young practitioners.

A Practical Treatise on the Diseases of Children. By J. Forsyth Meigs, M.D., one of the Physicians to the Pennsylvania Hospital; Consulting Physician to the Children's Hospital; Fellow of the College of Physicians, of Philadelphia, &c.; and William Pepper, M.D., one of the Physicians to the Philadelphia Hospital; Lecturer on Morbid Anatomy, at the University of Pennsylvania; Pathologist to the Pennsylvania Hospital, &c. Fourth Edition of Meigs on Diseases of Children, revised and greatly enlarged. Philadelphia: Lindsay & Blakiston. 1870. This is a full-sized octavo volume, of 921 pages.

We have not had time to examine this very full, and, doubtless, able treatise on the diseases of children; but, from the character of the smaller work of Dr. Meigs, and the well known reputation of both authors, we do not hesitate to recommend it to the profession.

Dr. Dieulafoy's "Aspirateur Souscutane."—Under this name, an instrument has been suggested, by means of which effusions into synovial or serous membranes, collections of pus or blood, and even hydatid sacs, may be safely evacuated. It consists of an instrument resembling a subcutaneous injection syringe, with a terminal and a lateral tube fitted with stopcocks, to which a *capillary* trocar can be fitted, so that after withdrawal of the morbid liquid, an injection may be practiced without removing either the trocar or the pump.—*Medical Times and Gazette, Nov. 20, 1869.*

Editorial.

Illinois State Medical Society. — We call the attention of our readers to the Secretary's notice of the next annual meeting of the State Society, which is to be held in Dixon, on the *third* Tuesday in May next. We hope there will be a general representation of the profession throughout the State, and that every committee will be ready to report promptly.

Chicago Medical College Commencement. — The exercises of the public Commencement of the Chicago Medical College, Medical Department of the North-western University, were held on the 21st and 22d of March. We copy the following notice of the occasion from the *Daily Tribune*:—

The excellent charge of Professor Haven to the graduates will be given in full in our next issue.

The Eleventh Annual Commencement of the Chicago Medical College was held yesterday afternoon, at No. 1015 State Street. There was a large attendance of the relatives and friends of the graduates. The Chair was occupied by Rev. Erastus O. Haven, President of the North-western University. Prayer was offered by Rev. D. Lord.

Dr. N. S. Davis, President of the College, delivered a short address about the progress of the institution.

Dr. Edmund Andrews, Secretary of the College, presented certificates to undergraduates, and also to students who did hospital service.

The premium for the best thesis was awarded to H. F. Blackman, and for the second best to C. W. Earle.

The premium for the best examination on orthœpedic surgery was awarded to Lucius Dillie.

Rev. E. O. Haven then addressed the graduating class, stating, that by the authority vested in him as President of the North-western University, with which the Chicago Medical College was associated, and with the approval of the Faculty of the College, he conferred upon them their degrees.

The following named gentlemen were given diplomas:—

Ordinary Degrees—Francis Homer Blackman, John Wesley Boggiss, John Waldo Booth, Reuben Willis Bower, Henry Harrison Clark, Lester Curtis, Lucius Dillie, Charles Warrington Earle, Maurice Edwards, George Washington French, John Hall Hudson, Clark Israel Miller, George Franklin Nealley, George Washington Pattee, Willard Parker Pike, Stephen William Ranson, Cyrus Clay Reichard, Albert Louis Shay, William Moffat Stratton, Charles Eliot Wing.

Ad Eundem Degrees — Darwin L. Manchester, M.D., Mary H. Thompson, M.D., D. W. Young, M.D., D. Newcomb, M.D.

Honorary Degrees — J. M. Jenkins, B. L. Steel, T. F. Mayhem.

President Haven addressed the graduating class, dwelling upon the necessity of education to physicians, and the necessity of all educated men knowing something of medicine. Physicians should be liberal in their natures. There should be no learned ignorance. To encourage the study of medicine, the North-western University had given $15,000, to build a home for the Chicago College of Medicine. [Applause.] They would try to make the union reciprocal in its advantages. Comparing the mode of studying medicine in Europe and America, he prophesied that our system would in the end prove the best. They should get rid of quackery. [Applause.] Doctors should be the prosecutors of science and free thought. They had received diplomas from what he believed to be the best medical college in the United States. Let them go out and maintain the honor and dignity of their profession. They should never forget their *alma mater*. When they returned to the next commencement, their *alma mater* would be in a new building, so, if they had any valedictory tears to shed after the old building, they had better prepare to shed them now. They should be Christians; they should be men. He welcomed them to the ranks of medicine, and hoped they would always honor it. The learned gentleman was loudly applauded.

Dr. C. C. Reichard responded in behalf of the class. He thanked the Faculty for their kindness, and promised, on

behalf of himself and comrades, never to forget their *alma mater*. [Applause.]

Professor H. A. Johnson, M.D., delivered the valedictory address. He bade them farewell as pupils, and welcomed them as doctors and associates. They should search always for the truth, as the truth would make them free. It would release them from the tyranny of prejudice. They should reject nothing because it was old, nor accept anything because it was new. With clean hands and pure hearts they should minister at the altar of life. The profession of medicine existed for society. Doctors were not necessarily a necessary nuisance any more than ministers, merchants, or any others. Their duties were to raise humanity from physical ills. They should care for men's bodies and minds, and be especially careful to enforce, as far as they could, the laws of hygiene, so that they might become conservators, as well as restorers, of the public health. They should always be ready to assist hospitals, and, to Christian hearts, the widow and the orphan never appealed in vain. They should be always on the alert to do their duties promptly. They should cultivate their hearts and its tenderest sympathies. Professional secrets should be held inviolable. An interesting address was concluded by an exortation to the graduates to study always to do their duty, and to promote the welfare of their fellow-men. The address was loudly applauded.

Then there was a song entitled "*Alma Mater O*," the joint production of Messrs. Lathrop and Earle. It was sung to the tune of the "Wearing of the Green," and created much enthusiasm.

The President pronounced the benediction, and the pleasant exercises were over.

THE PRESIDENT'S RECEPTION.

In the evening, a reception was held at the hospitable mansion of Dr. N. S. Davis, No. 797 Wabash Avenue. The Professors of the North-western University, of the Medical College, the graduates, the students and their friends, were in goodly numbers. There was a pleasant time all round.

Illinois State Medical Society:

Illinois State Medical Society, Office of Permanent Secretary, *181 West Madison Street, Chicago, Ill., March 22, 1870.*

The twentieth annual session will be held in Dixon, Lee County, on the third Tuesday in May, 1870, at 10 A.M.

The following committees are expected to report:

On the Practice of Medicine, Dr. C. Goodbrake, of Clinton, Chairman.

On Surgery, Dr. Moses Gunn, of Chicago, Chairman.

On Obstetrics, Dr. Elias Wenger, of Gilman, Chairman.

On Drugs and Medicines, Dr. Charles Hunt, of Dixon, Chairman.

On Necrology, Dr. J. H. Hollister, of Chicago, Chairman.

Special Committees:

On Criminal Abortions, Dr. DeLaskie Miller, of Chicago, Chairman.

On Ophthalmology, Dr. J. S. Hildreth, of Chicago, Chairman.

On Pulmonary Tuberculosis, Dr. J. P. Ross, of Chicago, Chairman.

On the Use of Plaster Paris in Fractures, Dr. R. G. Bogue, of Chicago, Chairman.

On Otology, Dr. Samuel J. Jones, of Chicago, Chairman.

On Arrangements, Drs. Everett, Phillips, and Hunt, of Dixon, Dr. J. C. Corbus, of Amboy, and Dr. E. P. Cook, of Mendota.

On Medical Education, Dr. N. S. Davis, of Chicago, Chairman.

Secretaries of all medical organizations are requested to send lists of their delegates to the Permanent Secretary, as soon as elected. Medical societies are entitled to one delegate for every five members. Any respectable physician, unable to attend as a delegate, or permanent member, may attend as a member by invitation, on the recommendation of the committee of arrangements.

T. D. FITCH.

Kansas Medical Law.—We have been kindly furnished, by Dr. J. Parsons, with the following copy of a law just passed by the Legislature of the young State of Kansas:

"An Act to protect the people of Kansas from empiricism, and to elevate the standing of the medical profession.

"Be it enacted by the Legislature of the State of Kansas:

"Section 1. That it shall be unlawful for any person within the limits of the State of Kansas, who has not attended two

full courses of instruction, and graduated in some respectable school of medicine, either of the United States, or of some foreign country, or who cannot produce a certificate of qualification from some State or county medical society, and is not a person of good moral character, to practice medicine in any of its departments, for reward or compensation, for any sick person within the State of Kansas; provided, that in all cases, when any person has been continuously engaged in the practice of medicine for a period of ten years, or more, he shall be considered to have complied with the provisions of this act, and that where persons have been in continuous practice of medicine for five years or more, shall be allowed two years in which to comply with such provisions.

"Sec. 2. Any person living in the State of Kansas, or any person coming into said State, who shall practice, or attempt to practice medicine, in any of its departments, or perform, or attempt to perform any surgical operation upon any person within the limits of said State, in violation of section one of this act, shall, upon conviction thereof, be fined in not less than fifty nor more than one hundred dollars for such offense, and upon conviction for a second violation of this act, shall, in addition to the above fine, be imprisoned in the county jail of the county in which said offense shall have been committed, for the term of thirty days, and in no case wherein this act shall have been violated, shall any person so violating, receive a compensation for services rendered; provided, that nothing herein contained shall in any way be construed to any person practicing dentistry.

"Sec. 3. This act shall take effect and be in force from and after its publication according to law."

Arsenic in Phthisis.—Mr. T. F. Sanger (*Lancet*) records his experience in a considerable number of cases, in favor of arsenic in consumption. He says, "In almost every case, the patient derived benefit from it, and several that I thought were hopeless, improved beyond my most sanguine expectations." A large majority of the patients were in the incipient stage; they were given five minims of Fowler's solution twice a day, soon after meals, with a drachm of iron wine, or five grains of the citrate of iron and quinine, or from fifteen to twenty grains of the hyposulphite of soda. It may be added that the locality where the cases were treated is a most favorable one for consumptives, having a chalk or porous sand soil, rendering it remarkably dry.—*Pacific Medical and Surgical Journal.*

Mortality for the Month of February, 1870.

CAUSES OF DEATH,

Accident, burned by clothes tak'g fire	1	Diphtheria	15	Lungs, congestion	7
" by fall	2	Dropsy, abdominal	2	" felted abscess	1
" naphtha	1	Dysentery	1	" hemorrhage	1
" asphyxia, f'm gas	1	Encephalitis	1	Measles	4
" " by screw in throat	1	Endocarditis	1	" & complications	5
" crushed, lumber-	1	Enteritis	5	Meningitis	4
" injured by knife in plaining-mill	1	" and rheumatism,	1	" cerebro-spinal	5
" poisoned by belladonna	1	Fever, intermittent, and inflammation of brain,	1	" tubercular	2
" " or designedly	3	" puerperal,	7	Metritis, puerperal	1
" railroad	5	" " and pyæmia	1	Old age	4
Abscess of spine, near 6 and 7 vertebra	1	" remittent	3	Œdema pulmonum	2
Anasarca	1	" " convulsions	1	Paralysis general and convulsions	1
Aneurism, renal artery	1	" scarlet	28	Peritonitis	1
Angina pectoris,	1	" " complications	11	" puerperal	1
"	1	" " malignant	4	Phrenitis	2
Apoplexy	3	" typhoid	8	Pleurisy, chronic	1
Arachnitis	2	Gastromalaxia	1	Pneumonia	25
Asphyxia	1	Glands, chronic enlargement,	1	" broncho	2
Atelectasis pulmonum	2	Heart disease	1	" & complications	3
Births, premature	16	" " and congestion of lungs	1	" typhoid	4
" still	37	" " and emphysema, lungs	1	Pyæmia	2
Bowels, ulceration	1	" dropsy	1	Small-pox	1
" intussusception	1	" rheumatic inflam & œdema, lungs	1	Spine, inflammation of	1
Brain, congestion of	2	" organic disease,	1	Stomach & Bowels ulceration & diarrhœa	1
" inflammation	3	" valvular disease	6	" ulceration	1
" membrane, inflammation	1	" dropsy	1	" hemorrhage	1
" dropsy	1	Hip, disease	2	Suicide, poison	1
" softening	1	Hernia, inguinal	1	" hanging	1
Bronchitis	10	Hydrothorax	2	Tabes mesenterica,	7
" capillary	5	Hydrocephalus	4	Teething	4
Cholera infantum	1	" and carbuncle,	1	" & complications	3
Consumption	38	Inanition	8	Tongue, cancer	1
Convulsions	46	Kidneys, Bright's disease of	2	Typhlitis	1
" puerperal	1	" cancer	1	Uræmia	1
Croup	20	Laryngitis	5	" from chronic tumor of prostate gland	1
" diphtheretic	1	Liver, cancer	1	Uterus, cancer of	1
" membranous	1	" encephaloid disease	1	Whooping-cough	5
Cyanosis	1	" inflammation	1	" & complications	6
Debility	5			Total	420
Development imperfe't	2				

AGES.

Under 1	123	10 to 20	23	60 to 70	10
1 to 2	64	20 to 30	40	70 to 80	5
2 to 3	33	30 to 40	28	80 to 90	2
3 to 4	17	40 to 50	18		
4 to 5	16	50 to 60	16	Total,	420
5 to 10	25				

Males,	212	Females,	208	Total,	420
Single,	330	Married	90	Total,	420
White,	416	Colored,	4	Total,	420

COMPARISON.

Deaths in Feb. 1870,	420	Deaths in Feb. 1869,	333	Increase,	87
Deaths in Jan'y, 1870,		483		Decrease,	63

NATIVITY.

Bohemia	2	England	9	Scotland,	3
Canada	4	France	2	Sweden	7
Chicago, Native	65	Germany	46	Switzerland	1
Chicago, Foreign	180	Holland	2		
U. S., other parts	59	Ireland	32	Total,	420
Denmark	2	Norway	6		

MORTALITY BY WARDS FOR THE MONTH.

Wards.	Mortality.		Mortality.
1	6	16	27
2	12	17	32
3	16	18	34
4	9	19	13
5	14	20	14
6	29	Accidents	17
7	18	County Hospital	8
8	29	Manslaughter	1
9	37	Mercy Hospital,	1
10	8	St. Luke's Hospital	1
11	16	St. Joseph Orphan Asylum,	5
12	14	Protestant Orphan Asylum	1
13	6	Suicides	2
14	8		
15	42	Total,	420

AN ANTIDOTE TO PHOSPHORUS.—M. Personne, a well-known chemical experimenter of Paris, has just communicated to the Academy of Sciences some important facts in connection with poisoning by phosphorus. He believes that the fatal effects of phosphorus, on the human organism, are occasioned by the fact that the substance rapidly absorbs the oxygen of the blood whilst burning in that liquid; and in order to demonstrate this he performed a series of experiments with pyrogallic acid, which has quite a different composition from phosphorus, but possesses the like property of absorbing energetically the oxygen of air when placed in contact with an alkali. The results have shown that the administration of the acid to dogs, in doses varying from two to four grammes, produces the same effects, and is attended by the same lesions, as follow the use of phosphorus. As a practical consequence, and in order to prevent the baneful effects of phosphorus, or pyrogallic acid, M. Personne advises the use of turpentine, which must prevent the internal combustion, since, as is well known, it opposes the rapid absorption of

atmospheric oxygen by phosphorus, even at a low temperature. This theoretical view has just been applied with complete success in two cases of poisoning by phosphorus under treatment in the Paris hospitals. The patients rallied completely through the timely administration of essence of turpentine. Cases of poisoning by phosphorus are so frequent that it is extremely important to become acquainted with an antidote which has hitherto furnished the best results.—*Medical & Surg. Reporter.*

Intemperance.—Dr. Druitt, of London, finished an address before the Health officers recently with the following conclusion:—1. That the secret drinkers, for the most part, may be restored by kind medical treatment. 2. That public drinking can only be put down by improved public opinion, education, and circumstances. 3. That every possible restriction be put upon the sale of spirits, especially on Sundays, and that power be given to the ratepayers to veto the establishing or licensing of public houses. 4. That habitual drunkards be encouraged to become teetotallers. 5. That the teetotal system operates beneficially, not by the pledge, which is often broken, but by the system of lectures and other means of moral and theological excitement. 6. That it were wise policy to provide rational amusement and wholesome refreshment at cost price for the masses. 7. That open drunkards be punished. 8. That drunkenness, together with the lesser forms of insanity, extravagance, gambling, betting, violence of temper, and other ruinous indulgences, be subject to a Court of Chancery (?) at the instance of the persons on whom the care and maintenance of such drunkard, gambler, etc., would fall, in the event of ruin. 9. That open drunkards be punished, and houses in which drunkenness is permitted be shut up. 10. That the common education of all classes is defective in moral teaching, and in training in the practice of abstinence.—*Med. and Surg. Reporter.*

Aggregation in the Dublin Lying-in Hospital.—Dr. Matthews Duncan, (*Med. Press and Circular,*) investigated the history of the Dublin Lying-in Hospital, with a view to trace the effects of crowding the wards. The hospital has been in operation 100 years, and has received nearly 200,000 patients. When it was emptiest, and contained about 1000 beds, the mortality was 14 per 1000. When the patients numbered 2300, the deaths were 12 per 1000; when 2800, 14 per 1000; when 3300, 13 per 1000. He holds that these figures prove that aggregation in that hospital did not increase the mortality.—*Pacific Medical and Surgical Journal.*

THE NEW YORK ACADEMY OF MEDICINE.—The twenty-second anniversary of the Academy of Medicine, New York, was held in the College of Physicians, on the evening of October 11th. The address was delivered by the President, Gouverneur M. Smith, M.D. In the course of his remarks he said:—

"Of the thirteen Fellows who have presided over it since its inception in 1846, nine have been gathered to their fathers; and it is a noteworthy fact, strongly disproving the frequent assertion that medical science tends to materialism and infidelity, that they all died rejoicing in Christian faith and hope. Since the last anniversary, death has also removed from the Academy, O'Reilly, Enos, Stevens, Guilford, 'men who would have adorned any calling, and of whom the profession has reason to be proud.'"—*Med. and Surg. Reporter.*

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ARTICLE XIII.

THE RELATIVE DANGERS OF ANÆSTHESIA BY CHLOROFORM AND ETHER—STATISTICS OF 209,893 CASES.

By E. ANDREWS, A.M., M.D., Prof. of Principles and Practice of Surgery, in Chicago Medical College.

The determination of the actual rates of danger in the use of our principal anæsthetics is a desideratum long felt by surgeons, but one which, owing to the difficulties of the undertaking, has generally been despaired of. M.M. Perrin and Lallemand, of France, in their elaborate work upon anæsthesia, pronounce the accomplishment of the task impossible. They remark, that to obtain the result, it would be necessary to "compare the number of the fatal cases with the approximate number of etherizations, so as to deduce the proportion of deaths. That last term of the comparison is wanting, and we hesitate not to say will always be wanting." (*Traite d'Anesthesie*, pp. 235, 236.)

Other surgeons seem to have been equally hopeless of success in this matter, so that our best works on anæsthesia are often perfectly silent, on the important point of the relative dangers of the different articles. Yet this is the very thing on which the surgeon most needs light, at the present time. It is well

known that chloroform is by far the most convenient article for use, and, therefore, always to be preferred, if equally safe; but if it is materially more dangerous than ether, the conscientious surgeon will choose the latter, for the sake of the safety of his patient. This is, therefore, a question of tremendous magnitude, possibly involving thousands of lives in its decision, hence the surgical profession will not quietly acquiesce in the opinion that its solution is impossible.

A three years' investigation has shown that this apparent impossibility may be overcome, and that although mathematical precision may be unattainable, yet a statistical approximation, sufficient for all practical purposes, may be established. Although we can ascertain neither the whole number of anæsthesias which have taken place in the world, nor the whole number of resulting deaths, yet we can obtain from hospitals and private records numerous masses of statistics, each of which gives a great number of anæsthesias, and the exact number of deaths pertaining to it; and by adding many such masses together, we can obtain cases enough to establish the ratio of danger. My figures thus obtained give us 92,815 cases of anæsthesia by ether, and 117,078 by chloroform, with the resulting deaths from each.

Up to the present time, the attempts to determine the ratio of danger have been as follows:—In 1859, Dr. John Chapman, of England, made a rough estimate, that chloroform had been given in all the hospitals of the world about 1,200,000 times; at the same time he gathered from books and journals 74 recorded deaths. He assumed that this represented the entire number killed by the anæsthetic, and that, consequently, the mortality was one to 16,000 anæsthesias. (*Westminster Review*, January, 1859.) The error of the calculation, of course, consists in assuming that all the deaths are published. Physicians, resident in Paris, inform me, that only about half of the known deaths from anæsthesia appear in print, in that city, while in England and in this country, probably not one-fifth part are ever published. As a general rule, a surgeon who has killed a patient by chloroform does not feel in a mood for publishing it;

hence the whole calculation is worthless, and the idea of the imposing authority of a quarterly review, being lent to the support of such an absurdity, is certainly amusing.

Dr. F. Sabarth, of Wurtemburg, published in French a work which was deemed worthy of translation into German. He estimates that all the anæsthesias in the world, during fourteen years, had amounted to 3,000,000; and finding 119 published cases of deaths, he reckons the mortality as about one in 26,000. It is obvious that this calculation is vitiated by the same blunder of supposing that all the deaths are published.

After the Crimean war, Baudens stated, that there were in that campaign 30,000 chloroformizations, in the French army, without a single death. (*Rev. de deux Mondes*, April, 1857.) Were these figures reliable, they would be a valuable addition to our statistics; but they are under suspicion. In the first place, the round number, 30,000, looks very like a vague estimate, rather than a statistical footing; secondly, a total absence of deaths in 30,000 chloroformed cases is contrary to the experience of all the rest of the world; and, finally, other French surgeons, present in the army, are said to affirm, that they personally knew deaths to occur from chloroform, which were not put on record as such. In the English Crimean army, one chloroform death, at least, is known; but the official reports give us no clue to the number of administrations of the article.

Dr. Richardson, of England, has, perhaps, given more attention to this matter than any European writer. He is quoted by Sansom, as having estimated in the *Medical History of England*, that the ratio of deaths from chloroform is about one in 17,000; but I infer that this is either a misprint, or else Dr. Richardson has since changed his opinion; for he has informed me that he now estimates the mortality about ten times higher than that, *i.e.*, one in 1500. Yet, Sansom's statement is still the basis of opinion for most of the London surgeons, on this subject.

In respect to the dangers of ether, the only information I find is the report of a committee of the Society of Medical Improvement, of Boston, which gives the opinion that no death

has ever been known from that agent, while the surgeons of Lyons, in France, who use ether exclusively, and believe it to be much the safest article, yet admit that it occasionally kills in their hands.

The facts collected in the following pages will, I hope, enable us to draw correct conclusions on this subject. The information was mainly obtained by personally visiting the principal hospitals of the world; but it is supplemented by correspondence with spots not visited, as well as by information from other sources, such as reports of the Surgeon-General of the U. S. Army, private records, etc.

In obtaining these facts, my method of procedure was, take from the records of each hospital (where reliable records existed), the number of anæsthesias and the number of resulting deaths. Reports of deaths, not accompanied with the number of anæsthesias, and reports of anæsthesias, not stating the number of deaths, are rigidly rejected. Where reliable records did not exist, I obtained, by personal consultation with the House Surgeons, a careful statement of the annual number of anæsthesias, based on the known average frequency per week, and carried this estimate over any period, during which the same officers could certify positively as to the number of deaths. All these cases are surgical; the results of anæsthesia, as used in midwifery, not coming within the scope of my inquiry.

In deciding what deaths were really caused by the anæsthetics, I have generally followed the opinion of the officers reporting them; but where this could not be obtained, I have adopted the principle, that for a death to be fairly attributed to the anæsthetic, it must be immediate, or nearly so, and there must be no other probable cause present. These rules exclude a great number of deaths, vaguely reported as due to chloroform and ether. Thus, out of 21 reported to the Surgeon-General of the U. S. Army, as caused by chloroform, only seven were found fairly attributable to that agent. It is not possible to keep absolutely clear of all errors, on this point, but I think I have obtained a close approximation to the truth; and as I have pursued exactly the same course with ether as with chloroform,

the errors, if any exist, must be fairly distributed on both sides of the question, and the results of the comparison of the two anæsthetics cannot vary much from mathematical verity. The following tables will show the results of the inquiry:—

TABLE OF CHLOROFORMIZATIONS, WITH THE ACCOMPANYING DEATHS.

SOURCES OF INFORMATION.	CHLOROFORMIZATIONS.	DEATHS.
Chicago (Hospital and private records),	6,726	5
Bellevue Hospital, N. Y. (about 1867–8),	600	1
Charity " "	1,460	2
Private practice of a Surgeon in Phila., about	1,000	0
U. S. Army Records (Circular No. 6),	13,956	7
Royal Infirmary, Liverpool,	2,000	2
Workhouse Hospital, "	1,800	0
Southern " "	2,000	1
Northern " "	950	0
Charing Cross " London,	800	1
Middlesex " "	600	0
Royal Ophthalmic Hospital, London,	2,808	1
Guy's Hospital (Eye Department),"	3,224	0
" " (Surg. Department)"	11,500	3
* University Hospital, "	18,250	4
Dreadnaught " "	1,400	1
London " "	13,000	3
St. George's " "	8,000	2
Westminster " "	3,120	1
St. Thomas' " "	3,746	2
Other London Hospitals,	9,826	3
La Pitie, Paris,	312	2
K. K. Allg. Kraukenhaus, Vienna,	10,000	2
Totals,	117,078	43
Ratio of Mortality,		1 to 2723

SULPHURIC ETHER.

In investigating the dangers of ether we are met by contradictory assertions, among those who use it most extensively. A committee of the Boston Society of Medical Improvement, headed by Dr. R. M. Hodges, made a report in 1861, maintaining that no death had yet been correctly attributed to ether. On the other hand, the surgeons of Lyons, in France, who use

* Mr. Erichsen stated, that there were only two deaths, but the House Surgeon informed me that there had positively been four. As Mr. Erichson may have forgotten, or never known of, deaths occurring in the service of the other surgeons, I have adopted the statement of the House Surgeon.

ether exclusively, claim that it occasions a few deaths. I have succeeded in collecting nearly 93,000 cases of anæsthesia, by ether, and among them were found deaths which seem as fairly attributable to that article, as similar cases are to chloroform; though there is a bare possibility of error, of course, in either anæsthetic. Following the rule above indicated, I count, for the present purpose, only the deaths occurring among the 93,000 cases reported to me, and make no assertions *pro* or *con*, about deaths reported outside of that list.

In the New York Hospital, the officers report two deaths from ether, one of which, I reject as not fairly coming within that designation. The rejected case was admitted March, 1864, for a stab in the neck which had penetrated the carotid artery. A large effusion of blood into the tissues occurred, making a tumor which pushed the trachea an inch to the other side, and so pressed upon the nerves as to occasion great pain. Hemorrhage repeated itself about every half hour, till the next day, and was checked each time by pressure of the fingers. The tumor continued to enlarge and press more severely, and the next day it was resolved to make an effort to secure the artery by ligature. The patient was etherized, when the respiration became embarrassed. A second attempt was followed by the same result, and, in a few moments, by death. I conclude, that in this case, the pressure of the tumor on the respiratory nerves was such as to partially paralyze them, requiring the mental attention of the patient to keep up the respiration; and the compression of the trachea might add to the trouble. As soon therefore as the volition was withdrawn by anæsthesia, the respiratory efforts would be embarrassed, and the result become fatal. In fact, the patient might be called already moribund, since the exhaustion of voluntary respiration would bring about the same result in a few hours. In these circumstances, the administration of a full opiate, or any other method of withdrawing the mental attention from the respiratory process, would have a like effect. It may, in a certain sense, be true, that the death occurred a little sooner, on account of the ether; but this is not what we mean by death from the toxic influence

of the anæsthetic. I should, without hesitation, reject such a case from the list of deaths by chloroform, and do the same by ether.

The other case was admitted September, 1865, for cancer under the canthus of the eye, which also seemed to occupy the cavities of the maxilla. The patient was etherized, and the operation commenced, everything appearing favorable. No great amount of blood was lost, but, early in the operation, respiration ceased, and the patient died, in spite of all efforts at resuscitation. There was no autopsy. Of course, it is possible that some other cause of death may have been present, but it is not probable that the patient would chance to die at that exact period, from disease, without the ether. Had such a death occurred under chloroform, I should, without hesitation, attribute it to the anæsthetic; and I coincide, therefore, with the officers of the hospital, in calling it a death from ether.

In the hospitals of Lyons, in France, five deaths have been spoken of as caused by ether. These have been carefully discussed by Dr. Gayet, Surgeon-in-Chief of the Hotel Dieu Hospital, of that city.

The first case was in 1852, at the Hotel Dieu, and was precisely like the one in New York Hospital, being a cancer of the superior maxilla. The patient was pale, thin, and cachectic. She was carefully and successfully etherized; but in the early stages of the operation, before the bone was touched, she ceased to breathe, and died, apparently of syncope. It should be mentioned, that the operation was in the sitting posture, a most dangerous position. But little blood was lost, however; and I incline to attribute the syncope to the anæsthetic, and, therefore, rank it as a death from ether.

The second case occurred at the hospital called l'Antiquaille, and was that of a woman etherized, for the removal of vegetations from the vulva. After a time, the pulse was found very feeble, and the operation was abandoned. Efforts to restore her failed, and she died. The surgeon of the hospital considered it a case of death by ether. The autopsy disclosed no cause of death.

The third case was of a man whose leg was crushed off by a locomotive. There were contusions of the abdomen and chest, and great hemorrhage. The shock was great, and the patient already speechless. He was etherized, and the thigh amputated, the patient dying during the operation. This is plainly a death from shock and hemorrhage, and not to be classed with the accidents from anæsthetics.

The fourth case was almost an exact repetition of the third. The patient had a terrible injury of the inferior extremity, with four violent hemorrhages, from a railroad accident. His thigh was amputated, under ether, and he died in less than an hour afterwards. This is evidently a death from shock and hemorrhage.

The last case was of a woman, whose autopsy showed tubercles in the spinal column and in both hip-joints; the cavities of the articulations being filled with cheesy matter, mingled with the debris of the bones. There was also a small tumor in the pia mater of the cerebrum. She was etherized, and the flexed thighs straightened with some force. The adductor muscles, on both sides, were torn, and the neck of one femur broken, by the operation. There was also considerable blood effused. The patient showed signs of syncope, but, by the prompt use of restoratives, recovered her pulse and color, and was carried to her bed by the attendants. Arriving at the bed, she fainted a second time; and the nurses not understanding what to do, she was past recovery before the surgeon was called. There is more doubt about this case than about either of the others; but after considering the terrible condition, both of the brain, the spine, and the hip-joints, and the natural results of extensive laceration of muscles, effusion of blood, and fracture of the neck of the femur on such an exhausted constitution, it appears to me that the ether was not chargeable with the death. I coincide with the officers of the hospital, therefore, in the opinion that the patient succumbed to simple syncope, caused by the operation, and rendered fatal by the accidental absence of skilled assistance, on its second recurrence. Two other cases of death have been spoken of, in the vicinity of Lyons, as

caused by ether; but not being in the hospitals, they do not come within the scope of my statistics.

Finally, one case of death by ether is reported to me verbally, by the officers of St. Thomas' Hospital, London. I could not learn the particulars.

We have, therefore, four deaths, apparently caused by ether, in circumstances where we can make a comparison with the total number of cases of anæsthesia, among which they occurred. The following table gives a view of the results:—

TABLE OF ETHERIZATIONS WITH THE ACCOMPANYING DEATHS.

SOURCES OF INFORMATION.	ETHERIZATIONS.	DEATHS.
Chicago Records,	895	0
Mass. General Hospital, Boston, about	25,000	0
City Hospital, " "	8,760	0
New York Hospital, New York,	5,100	1
Bellevue " " (about 1868–69),	600	0
Pennsylvania " Philadelphia,	2,500	0
Episcopal " "	3,432	0
Private Practice, "	250	0
U. S. Army (Circular No. 6.),	6,978	0
St. Thomas' Hospital, London, about	1,000	1
LaPitie " Paris, about	300	0
Hospitals of Lyons, about	38,000	2
Totals,	92,815	4
Ratio of Mortality,	1 to 23,204	

It is evident, therefore, that the ratio of mortality, in surgical anæsthesia, by chloroform, is about eight and a-half times greater than by ether.

Sufficient statistics upon the subject of mixtures of chloroform and ether have not been collected to form a sure basis of opinion. The following table, so far as it goes, seems to show that the ratio of danger is, as might be expected, between the other two:—

TABLE OF ANÆSTHESIAS, BY MIXTURES OF CHLOROFORM AND ETHER, WITH THE ACCOMPANYING DEATHS.

Sources of Information.	Anæsthesias.	Deaths.
Chicago Statistics, about	350	1
U. S. Army (Circular No. 6),	2,326	0
Guy's Hospital, London	8,500	1
Totals,	11,176	2
Ratio of Mortality,	1 to 5588	

From this it would seem that the mixtures have proved twice as safe as chloroform, and about four times more dangerous than ether.

With regard to the new anæsthetic, bichloride of methylene, we have as yet no decisive results, but the English journals report a single death among about 7000 cases.

Nitrous oxide, contrary to our first impressions, turns out to be the safest of all anæsthetics. It is not easy to place the result in figures; but in cities where we constantly have deaths from chloroform, we seldom hear of any by the gas. The only statistics which I know of on the subject are those kept by the Colton Dental Association. This is an associated circle of dental establishments, with branches in all the largest cities, which confine themselves exclusively to the extraction of teeth, and invariably use the gas as an anæsthetic, and preserve a record of each case. The plan of this record was prepared by Dr. Colton, at the suggestion of a member of Congress. I have no means of positively verifying its accuracy, but, yet, I attribute considerable value to it. The Association, at the present time, claims to have anæsthetized about 75,000 patients, in the United States, without any death.

Finally, if we summarize the whole matter, it seems that the various anæsthetics have the following rates of mortality:—

Sul. Ether,	1 death to	23,204	administrations.
Chloroform,	1	"	"	2,723	"
Mixed Chloroform and Ether,	1	"	"	5,588	"
Bichloride of Methylene,	1	"	"	7,000	"
Nitrous Oxide,	No death in	75,000	"

ARTICLE XIV.

REMARKS ON RELATIONS OF THE PHYSICAL FORCES TO DISEASE.

BY F. HOMER BLACKMAN.

Etiology is the most difficult of all branches of medical study to elucidate. In this department of medical science, more than in any other, speculations and theories have occupied the place of facts. "All scientific inquiry begins in the same manner with guesses;" various conjectures and hypothesis being made to explain observed phenomena. Men are not all equally skilled in making generalizations. It depends mainly on boldness of thought and fertility of invention, an original cast of intellect, an inquisitive and suggestive frame of mind, which sees and prizes that which others neglect, which abides by no rules, and is a law unto itself. The celebrated chemist, Faraday, has said: "the world little knows how many thoughts and theories, which have passed through the mind of a scientific investigator, have been crushed in silence and secrecy by his own adverse criticism." All theories and generalizations are of use in scientific investigations, and have, in many instances, been productive of great good. It is probable that much of the discrepancy of opinions existing concerning the action of drugs, and our want of faith in medication, in general, is due to different observers holding dissimilar theories, by which they interpret the various phenomena of physiology and pathology. What seems to be wanting in medical science, more than anything else, is a central idea of life. We will never be able to rightly apprehend disease until we are able, in lucid terms, to state what life is. Life has hitherto been looked upon as a resultant of ordinary chemical forces, of the inorganic world, modified by a peculiar force called vital. In the advancing light of modern science, this vital force has flown, leaving no trace behind of its existence; and in its place there comes a "physical basis of life," plainly suggesting that there is some

one kind of matter which is common to all living beings, and that their endless diversities are bound together by a physical as well as an ideal unity; showing conclusively that there is a "community of faculty between the bright-colored lichen, which so nearly resembles a mere mineral incrustation of the bare rock on which it grows, and the painter, to whom it is instinct with beauty, or the botanist, whom it feeds with knowledge."

The difference in faculty, in all living organisms is in degree, and not in kind. Contractility is manifest under the influence of certain stimuli, as well in the lowest plant as in the highest animal. There is a well-founded hope that presently we shall have a theory of life, which shall not have its origin in the idle vagaries of the imagination, but in substantial phenomena, which we are capable of appreciating and understanding. Scientific research has pretty fully demonstrated, that a threefold unity exists common in all life, namely: "A union of power or faculty, a unity of form, and a unity of substantial composition." The essential constituents of the "physical basis of life" is carbonic dioxide, water, and ammonia.

Modern science asserts of this matter of life, that it is composed of ordinary matter, "differing only in the manner in which its atoms are aggregated." Under whatever disguise it takes refuge—whether in the fungus, or oak, worm, or man—the living protoplasm not only ultimately dies and is resolved into its mineral and lifeless constituents, but is always dying; and, strange as the paradox may seem, could not live unless it died. In fact, in living organisms more than elsewhere, we see exemplified the great law, elaborated by Herbert Spencer, of the continuous redistribution of matter and motion. Man, in his ignorance, is fond of multiplying causes; but science, as if conscious of nature's love of unity and order, is constantly demonstrating the simplicity of truth. All living bodies are so constituted, that whatever disturbs the normal equilibrium of the redistribution of matter and motion is the cause of disease, the disease being the perturbation caused by the disturbed equilibrium.

The profession have, for a long time, tacitly asserted the

belief, in many ways, that the causes of disease are much more suttle than text-books have described. Some seem almost to have reached the conclusion here adopted, that disease is a disturbance in the normal equilibrium of the forces existing in the organism. Dr. Gillette, of Philadelphia, in a report upon the "relations which electricity sustains to the causes of disease," strenuously advocates the doctrine, that almost all diseases are satisfactorily accounted for by electric disturbances in the atmosphere. Mr. Craig, of England, is a zealous advocate of similar views. The relations of temperature have been, and are still, being studied with intense interest; showing that among the thoughtful men of the profession, a feeling has existed for a long time, that caloric sustains an important relation to disease. It has not been studied in the direction that we could have wished, but, nevertheless, some important items may be gleaned from observations already made. The thermometer only tells us the relative amount of sensible heat evolved in the organism, but does not tell us anything about that which may remain in the system, destroying chemical affinity, by driving atom from atom. This can only be determined by studying the other physical forces in connection with temperature. This, then, is our ideal method of studying disease. Everything taken into the system is in relation to it, either a plus or a minus force.

The following conclusions seem to be warranted by recent scientific research, namely: that motion, chemical affinity, heat, light, electricity, magnetism, and nerve force are convertible, each into the other, both qualitatively and quantitatively; that large quantities of these forces surround every form of matter; that these forces are particularly subject to change, in their relative proportions, especially when existing in relation to that form of matter known as gaseous; that these forces, as they exist in the body, are evolved during the processes of respiration, digestion, and assimilation; and that they sustain a certain quantitative and qualitative relation to each other, which relation cannot be disturbed without more or less disastrous effects being produced in the organism; that the relations sustained to each other are qualitatively the same in living as in organic bodies;

that the stability of the relations differ much in different organisms, and, also, in the different stages of their development and growth; and, finally, that no system of etiology which does not recognize the influence of the so-called physical forces, singly and combined, in the production of disease, is worthy of serious attention. Motion, where we can trace its genesis, we find to preëxist as some other mode of force. All our voluntary acts are preceded by certain sensations of muscular tension. The force accumulated in a body by downward motion is just equal to the force expended in its elevation; conversely arrested motion produces, under different circumstances, heat, light, electricity, magnetism, and chemical force; and, lastly, motion may be reproduced by the forces which have emenated from motion. Chemical force, or affinity, in its manifestations, exhibits some remarkable and well-ascertained phenomena. It is always accompanied by the production, or by the annihilation, of heat. A given amount of chemical action will absorb or evolve a certain definite amount of heat. Chemical action and heat are mutually convertible. The same quantity of heat evolved during a certain chemical action will be required, in order to reverse it. As has already been stated, chemical force is but a mode of motion. Now, it happens that bodies may possess so much chemical force or motion, that chemical affinity between them is impossible, or they may possess too little motion for chemical action. When metalic mercury is heated, nearly to the boiling point, and in that state exposed for a lengthened period to the air it oxidizes, if it then be raised to a still higher temperature, the oxide is decomposed. Paladium oxidizes superficially, at a red heat; but if the temperature rises to whiteness, the oxide is reduced and oxygen is set free. The vapor of water is decomposed by white hot platinum.

Chemists do not satisfactorily explain these phenomena, yet it seems to us that the explanation follows as a natural sequence to the phenomena themselves, and is in accordance with the fact previously stated, that too much or too little motion in a body prevents chemical affinity. Pathologists do not appear to have noted these facts, or, if having noted them, have failed to make any record of them.

A certain class of chemical phenomena known as catalytic, or action by presence, seems to be in accordance with the same law. For instance, we may have a mixture of two gases, in which no chemical action will take place, if kept in the dark, or, at all events, very slowly; but if exposed to the light, or if a current of electricity be passed through them, they will unite instantly. The introduction of a piece of spongy platinum into a mixture of oxygen and hydrogen gases causes chemical action, in a few minutes; the platinum becomes, at the same time, intensely heated. In the former instance, a certain amount of motion was necessary, in order to raise the motion in the gases, to the point of chemical affinity. In the latter case, the platinum acted as a conductor of motion, thus reducing the motion in the gases to the required degree. Death from lightning appears to be produced in harmony with the same law. Thus an immense amount of motion accumulating, for the time being, in and about the body, prevents chemical action.

Two varieties of sunstroke are described by authors. They may be thus described: — In one, the direct rays of the sun upon the head induces cerebral congestion; in the other variety, excessive heat, often not under the immediate influence of the sun, effects the whole system with prostration, apparently from a blood change; the chemical operations of the economy being modified by heat, in a manner incompatible with the vitality of the blood. Both are similar in cause, and differ only in degree. They are explainable by the chemical law previously stated, which holds good for all chemical action, whether it be in the body or out. The excessive amount of heat in the body prevents chemical changes. In the first variety, the heat induces violent chemical action, indeed, the very highest that can be produced. In the second variety, the heat has reached the point where it begins to prevent chemical affinity. Arctic explorers meet death, frequently, in a manner directly the reverse of this. The temperature of the frozen regions of the north being very low, heat is absorbed into the atmosphere with great rapidity. All the motion in the body is absorbed into the atmosphere in the form of heat. Intellection and muscular

action are interfered with, and, finally, they cease altogether. The individual sinks quietly down in the snow, desires to be let alone; neither threats, persuasions, the entreaties of friends, or a knowledge of his situation have any influence over him. This phenomena is also explainable by our general law of too much or too little motion checking chemical action. Animals exhale carbonic dioxide, and, at the same time, evolve heat. Plants inhale carbonic dioxide and exhale oxygen, with the absorption of heat. The motion evolved in the formation of carbonic dioxide, in the body, is expended in the production of all those activities for which animals are noted. In the plant, an equivalent amount of motion must be absorbed, in order that chemical action may ensue, and carbonic acid be decomposed. To accomplish this, a certain amount of motion is obtained from the sun; and, in this manner, plants become storehouses of motion, and it is through them that animals indirectly obtain life from the sun.

In regard to the amount of motion contained in them, plants and animals hold an intermediate relation between the inorganic elements, composing the earth on which we live, and that great ocean of active, restless, uneasy matter called atmosphere, which is about and above us. The sun is the source from whence all these ceaseless activities arise. It is at once the fountain of life and the source of death. The temperature of the human body varies, in health, but slightly, from 98 degrees, while the atmosphere varies in a range of nearly 200. For health, the temperature of the atmosphere should be from 20 to 30 degrees below that of the body, thus permitting ready radiation of the evolved heat.

The fluctuations in temperature, observed to occur in many diseases, are due, probably, to retarded chemical changes, thus: when the heat accumulated in the body has reached a certain point, chemical change is diminished, until, by radiation, the temperature is reduced, when the same phenomena recurs. By recognizing this fact, we may pretty certainly predict much concerning our patients.

Epidemic cholera furnishes another striking illustration of the

manner in which disease may be produced, by the sudden obstruction of some one of the physical forces from the system. This fact has been noted by observers, both in England and on the Continent. The force whose equilibrium is disturbed in this disease is electricity. In a communication to the French Academy, M. Andrand, who had charge of a very powerful electric machine, writes:—"I have remarked that since the invasion of cholera, I have not been able to produce, on any occasion, the same effect. Before its occurrence, in ordinary weather, after one or two turns of the wheel, brilliant sparks, of five or six centimeters in length, were given out. During the months of April and May, the sparks were obtained with difficulty, and their variations accorded very nearly with the variations of the cholera. During the days of the 4th, 5th, and 6th of June, it was impossible to obtain anything but slight cracklings, without sparks. On the 7th of June, the machine remained quite dumb. This new decrease of the electric fluid perfectly accords with the renewed violence of the cholera, as is only too well known. For my own part, I was more alarmed than astonished; my conviction was complete. At last, on the morning of the 8th, some feeble sparks reappeared, and from that hour the intensity decreased. Towards evening, a storm announced at Paris that the electricity had reëntered to its domain: to my mind it was the cholera that disappeared with the cause that produced it." In some experiments in England, during the epidemic of 1849, it was found that a magnet which ordinarily carried two pounds and ten ounces, would, when the atmospheric indications were at their worst—the air being saturated with moisture—sustain only one pound and ten ounces; the degree of its attraction varying with, and being in inverse proportion to, the violence of the disease. These phenomena are all readily explained by the general law previously enunciated, and is what we should, *a priori*, have been led to expect. In this case, the avenue through which motion made its escape was the electric. Those cases of cholera which occur without any violent evacuant symptoms show the different

chemical affinity, which may be brought about in the body, by the abstraction of motion, in the form of electricity.

The matter composing the animal economy is subject to the same laws as that of the inorganic world; hence we should expect that all those circumstances which exercise a perturbing influence upon chemical action, outside of the body, should have a disturbing influence upon those taking place in the body. It should be our first object in studying disease, after this method, first, to study chemical change and its disturbing influences, in inorganic matter, then to apply the same principles to living organisms; recollecting that they owe their differences, not to different forces acting in their production, but to the matter out of which they are made.

ARTICLE XV.

TABES MESENTERICA, WITH CASES.

By F. K. BAILEY, M.D., Knoxville, Tenn.

Nov. 9th, 1867. An Irish woman brought her child (male), about one year old, to my office, when I found its history as follows:—At times during the previous summer it had diarrhœa, attended with vomiting, which was without doubt true cholera infantum. Emaciation was extreme, and the skin hung in folds upon the face and limbs. The eyes were sunken, the surface of a bluish hue, and the expression extremely haggard. The abdomen was enormously enlarged, with a knotty feel to the surface. There was a hardness over the liver, and dulness in the whole right side of the abdomen.

The stools were frequent, milky, and very offensive. Diagnosis—enlargement of the mesenteric glands, with engorgement of the liver. Prognosis very unfavorable.

Prescribed as follows:—

℞. Liquor Iod. Ferri, ---------- ℥ij.
Syr. Sarsa. Compos.,---------- ℥ss.
Sulph. Cinchoniæ,---------- grs. viij.

Syr. Simplices, ---------- ℥j.
Aquas Cinnamomi,---------- ℥ss.

M. Liq. Two-third teaspoonful four times daily. Diet—beef soup and milk.

16th. The woman called, when I found the child some better, but the stools rather more frequent and copious. Directed a continuation of the mixture, and for the diarrhœa, as follows:

℞. Syr. Rhei Aromat., ---------- ℥j.
Tr. Kino, ---------- ℥ij.
Tr. Opii Camph.,---------- ℥iij.

M. Liq. 30 drops two or three times daily.

Nov. 28th. Again called. Marked improvement. Less distension of the abdomen and some gain in flesh. The enlargement in the hepatic region still obvious. Directed the following:

℞. Liq. Iod. Ferri,---------- ℥iij.
Sul. Cinchoniæ, ---------- grs. viij.
Iod. Potassii, ---------- ℈ij.
Syr. Simp.,---------- ℥iss.
Aquæ Puræ,---------- ℥ss.

M. Liq. Two-third teaspoonful three times daily, externally, to the hepatic region.

℞. Iod. Potassii,---------- ℥ss.
Tr. Opii,---------- ℥ij.
Oleii Olivæ, ---------- ℥j.

From this time the child improved slowly. The distension subsided very much, but the knotty feel was perceptible for some months.

In September, 1868, I was called to see the child, and found it suffering from diarrhœa and vomiting, considerably emaciated, and with tumidity of the abdomen, but no knottiness over the mesentery. Gave iod. iron, with sul. quinine; pulv. Doveri at night, and improvement was immediate. Saw no more of the child till June 10th, 1869, when I was called, and found it laboring under cholera infantum. Although the child had grown somewhat since last fall, still he was small and weak, and could walk with difficulty, Tonic alteratives and opiates soon checked the excessive action of the bowels, and in a few day after, no diarrhœa remained.

July 22d. Another relapse of diarrhœa, with extreme exhaustion. There was abdominal fulness, or evident glandular enlargement. Prescribed iod. iron, with sul. quinine, and opiates, *pro re nata*, and convalescence was soon apparent.

January 1st, 1870. There has been no return of diarrhœa since last summer, and the little fellow is becoming a fat, stout boy, and able to do justice to a square meal, of an Irish mother's cooking.

March 8th, 1869. Called to see a little girl three years old, child of unmixed African parents. Found the little creature sitting upon a low chair, a perfect picture of abject wretchedness. She had been sick a long time from diarrhœa, which nothing had seemed to control in the least. The face and head looked like a skeleton upon which some black leather had been stretched. The voice was feeble and sepulchral. The abdomen was enormously distended, and the lower limbs looked, as they hung from the edge of the chair, like two pieces of tarred rope dangling from the lower side of a blackened sphere.

I could give no encouragement in the way of cure, but prescribed iod. iron, with iod. potassii and sulph. cinchoniæ. I saw the child occasionally during the month, and, on the 30th, saw there was some gain in strength, both in limb and voice. During the summer, the little patient was kept upon iron and the preparations of cinchoniæ. The diarrhœa was difficult of control; but nothing, except tonics, was of any avail.

Some time in August, the child died. A week or more before death, the distension subsided in the abdomen, when there was brought to view and feeling a large lump, or cluster, of a nodulated character, in the front parietes, which, doubtless, were the enlarged mesenteric glands. There was no *post mortem* examination.

July 18th, 1869. Called to see a child, 18 months old, of African parents, which had had summer complaint for some weeks. The abdomen was but slightly distended, and the lumpy feel was very apparent. Discharges, milky and frequent; great thirst, and very rapid circulation. Prescribed as follows:—

℞. Liquor Iod. Iron, ---------- ℥ij.
Iod. Potassii,---------- ℥ss.
Sulph. Quinine, ---------- grs. x.
Syr. Simp., ---------- ℥iij.

M. Liq. Three-fourth teaspoonful four times daily. In a few weeks, this child was well; but occasional relapses of diarrhœa occurred.

Besides the above, I have seen two or three cases in which ordinary summer complaint was accompanied by an incipient enlargement of the mesentery; but by appropriate and prompt tonic alterative medication, the progress was suspended.

I do not think that there was any strumous diathesis in either parents of the children, whose cases are above mentioned.

Since writing the above, I saw the first mentioned patient, while incidentally in the neighborhood.

Growth has been slow, and the abdomen is considerably distended. The fulness is probably a result of deficient tone in the muscular walls of the intestines, and not from glandular enlargement; because nutrition seems to be good, and the child has a good share of adipose and muscle.

March 22d, 1870.

The Clinic.

NOTES FROM THE WARDS OF MERCY HOSPITAL.

By C. W. EARLE, M.D., House Physician.

During the past three months, several cases of more than usual interest have been admitted into the hospital. The notes on the operations, and the treatment of these cases, may be interesting to those remote from hospital advantages.

Case — Bradley D. Saltor, aged 36, by occupation a tinner, admitted December 20th, 1869.

History.—About a month previous to admission, while engaged in building a dome at Carlinsville, Ill., he fell with the

scaffolding. Was treated near his home till admission to the hospital.

Upon examination, a prominence was fouud in the dorsal region of the spine, total paralysis below this projection, urine and faces passing involuntarily, with occasional priapism.

He also had a very large and deep ulcer on the sacrum, and bed sores on his back and upper part of thighs. Appetite very poor.

Diagnosis.—Fracture of vertebræ.

Treatment.—An air bed was obtained for him as soon as possible, and, to improve the appetite, he was given tinct. cinchona and arom. sulph. acid. The large ulcer on sacrum and the bed sores were washed with tepid water, slightly carbolized, and dressed with cotton batting, saturated with oleum ricini and carbolic acid (10–1). Opiates were given at night as required.

Present Condition, April 1st, 1870. Paralysis continues, urine and faces are still passed involuntarily. Ulcer on sacrum entirely filled with new flesh and almost closed. All the bed sores that he had on admission are healed, and the integument is protected with adhesive plaster.

Notwithstanding our efforts to prevent any new bed sores, we have not been able to keep the heels from sloughing to some extent. They are prevented from coming in contact with any of the bedding, and various devices are resorted to, in order to keep them from getting worse. His bowels have been relieved from time to time of the retained matter, by injections, and his urine, which at times has been heavily loaded with the phosphate, causing very severe pain in the bladder, has been drawn with the catheter when necessary. Occasionally he has suffered great pain in the vicinity of the kidneys and the epigastrium, with very severe headache. When any periodicity in fever or chills have been noticed, he has had quinine, and the general internal treatment has been according to the indications. The patient has thus been kept along for nearly five months, without the supervention of death. Erichson, in his surgery, says, that these fractures, with displacement, are always fatal. Primarily and immediate from the injury, secondarily and remote, (1) as

the result of changes in the body, dependent on continued loss of innervation; (2) from inflammatory action, spreading up the membranes, and in the cord itself, giving rise to effusion, etc.

From death by the injury, at the time it was received, he was spared; and the length of time that we shall be able to prolong his life, by alleviating his sufferings and combating complications, the future history of the case will decide.

Case —. Mrs. M. N., aged 40, residence in city, admitted January 20th.

History.—Four days previous to admission, this woman fell down a flight of stairs, injuring herself severely. Her injuries were dressed by two surgeons of the city, who visited her regularly, while she remained at her home.

Examination.—When first seen, her elbow and forearm were enveloped in a large sling, but the hand protruding, it was noticed to be black and cold. She was partially delirious, and may have been somewhat under the influence of opiates, as she seemed to suffer very little pain. I immediately removed all the dressings, and, now, the very severe nature of the injuries were apparent.

Diagnosis.—Comminuted fracture of the lower third of both radius and ulna, with a very large wound involving the elbow-joint. The exact nature of this wound, the depressed condition of the patient rendered it impracticable to fully determine. It is not my province to criticise; but I wish to give the manner in which these injuries were dressed, and let each reader of the Examiner draw his own conclusion. The wound at the elbow was closed with sutures, and the end of a ligature displayed itself, showing that some artery had been ligated. The comminuted fracture was dressed by placing a roller bandage next the integument, which, in the swollen condition of the arm, cut off completely what little circulation of blood there may have been. Over this bandage, two splints, seven inches in length, were placed; and with another bandage, and the large sling mentioned before, the dressing was complete. The husband of the patient informs me that swelling commenced immediately, and that the pain was intense. The surgeons (?) were entreated to

either take off the dressing or relieve the pain, in some way. These gentlemen informed the patient and her friends that everything was "all right;" and, in this condition, she was admitted to the hospital.

To attempt to save the arm was not now to be considered, and all our efforts were directed in rallying the powers of the patient, and supporting the system, in order to amputate where the line of demarkation should indicate. Prof. Andrews saw her often, and all the care and attention was given that was possible. Opiates were prescribed to quiet her pain, warm fomentation to help the circulation was made, a generous diet and stimulants were given — all the indications were met promptly, but to no avail.

January 22. Delirium traumaticum ensued, which was controlled by anæsthetics; stimulants continued.

January 23. Pulse growing weaker. Died at 3 o'clock P.M.

In January, three cases with aneurism were admitted, an unusual number to have at one time in our hospital.

One died from rupture of sac; the second, after an operation, and the third has been discharged, somewhat benefited. I subjoin the notes on the several cases.

Case —. Pat. Quinn, aged 28, farmer, admitted January 24th.

History.—Last summer, while engaged in work that required lifting, he noticed a quick, sharp pain in his left side, followed by some soreness and pain. He was treated for rheumatism for some time; but, after some weeks, noticing a little pulsating, he came to Chicago for treatment, and was admitted to the hospital.

Immediately on being received, he was placed on the following treatment:—

℞. Iodidi Potass, ---------- ℥iij.
Simp. Syrup, } āā, ---------- ℥ij.
Aqua, }

M. Sig. Teaspoonful every four hours. Opiates to relieve pain, and a diet that he relished.

A day or two following his admission, Prof. Davis delivered

a very valuable clinic at his bedside, giving us the differential diagnosis between it and all diseases with which it might be confounded. This lecture was fully reported by Dr. S. A. McWilliams; and there remains for me to communicate, simply the notes on the case, till his death.

January 28th. At 10 o'clock to-day, the patient grew suddenly pale, was seized with very severe pain in abdomen, experienced great difficulty in breathing, extremities were cold, and no pulse could be detected at the wrist. It was supposed by the House Staff that the sac had burst, and that the patient would die immediately, yet nothing was left undone, and, under the use of the proper remedies, he slowly rallied.

During the next 48 hours, his pulse came up, and, with the use of opiates, he was kept quite comfortable. Prof. Davis now saw the patient, and expressed the opinion that the sac of the aneurism had ruptured, but the contents, instead of passing directly into the peritoneal cavity and causing death, had followed down behind that membrane; the artery being one of those so situated that this could take place.

January 31st. Discolored spots were seen along the left side, especially near the crest of the ilium—probably the blood from the aneurismal sac, infiltrating through the tissues. *10 o'clock P.M.* Is having great pain, growing pale, pulse very weak and fluttering. Died at midnight. No autopsy permitted.

Case —. Dennis Quill, aged 50, laborer, admitted January 26th.

History.—Three months ago, while at work in the Stock Yards, near this city, he noticed a small swelling just below Poupart's ligament, on the right leg. Was treated with iodide potass; but the tumor gradually increasing, he is now admitted to hospital for an operation. Placed on tinct. iron for four days previous to operation, and until day of surgical clinic.

January 31st. Prof. Andrews operated, in presence of the students of the Chicago Medical College.

Operation.—A full anodyne having been given, the ether was administered. To insure complete and perfect anæsthesia, as the Prof. required this in such a difficult operation, a very

little chloroform was given. An incision was made, about four inches in length, one inch above, and parallel with Poupart's ligament.

The integument and all the different fasciæ were taken up and skilfully divided, the epigastric artery carefully avoided, and the peritoneum disclosed. This membrane was gently pushed aside, and the artery could be seen in the bottom of the wound. A large vein could easily be seen passing obliquely over the artery, which was also avoided. A ligature was now placed around the artery, and the aneurismal tumor collapsed.

The wound was closed by suture and adhesive straps, and the patient put to bed. To assist in the establishment of the collateral circulation, he was placed on his left side, to avoid pressure of the vessels on the right. He was ordered tinct. iron, gtt. xx; quinine, grs. iv; four times a day; and as he was accustomed to the use of alcoholic drink, it was thought advisable to continue stimulants in small quantities. His pulse remained good, and he rallied well from the operation.

Evening of 31st. Gave morph. to ease pain and produce sleep. Pulse 94, temperature of leg 96° F.

February 1st, morning. Pulse 100, temperature of leg 96°. No pain or symptoms of any inflammation.

Noon. Pulse 112, respiration 28, temperature in axilla 103½°, temperature of leg 98°. Collateral circulation apparently well established. *Evening.* Pulse 108, temperature in axilla 101°, leg warm, no pain. Everything looked favorable.

February 2d. Patient died at 2.30 this morning. No autopsy permitted.

Remarks.—We can never know the exact cause of this man's death. He certainly did not die from the effects of the operation, or from peritonitis, for he rallied well from the first; and although at the last he had a little tympanitis, yet not at all dangerous, as his pulse and temperature both indicate. There are some indications, after his death, that pointed to internal hemorrhage. Large quantities of sanious matter and blood were discharged from the mouth and nostrils; and it is highly probable that the same condition of the arteries, which per-

mitted the formation of the aneurism below Poupart's ligament, had given rise to another aneurism, hidden from view, which ruptured and caused his death.

Case —. Pat. Nash, aged 35, laborer, admitted Jan. 19th.

History.—The patient that now claims our consideration had always been very healthy, till about three years ago, when he had an attack of rheumatism, the acute form lasting him some eight months. A short time after this, he had a kind of paralysis, but was cured by Dr. Davis. In the autumn of 1859, he felt better than for years previous, and went to Michigan, where he worked for one month digging a canal, and exposed to all the inclemency of the weather. He came home sick, and was treated, as he says, for rheumatic fever, liver complaint, and dyspepsia. Four weeks before he came to hospital, he noticed a pulsating tumor just above the umbilicus; and calling the attention of his medical attendant to the fact, was advised "*to buy a dollar's worth of leeches, and apply.*" The full notes on this case, from the time of his admission until his discharge, March 19th, would be tedious; and it will be sufficient for me to say, that for the first two weeks, he took iodide potass, grs. vi, every three hours, and, from that time, 20 grs., three times a day. He was supplied with anodynes, and given other remedies, *pro re nata.* During the course of treatment, his aneurism certainly did not enlarge, and it was thought by those entirely competent to judge, that it was somewhat reduced in size. It will at least encourage us in the use of iod. potass, in such cases.

This case was very important to us, as regards diagnosis. The chief symptoms of an abdominal aneurism are pain, either constant or paroxysmal, an impulse to the head, as it is placed over it, with or without a swelling, and a blowing sound or thrill, communicated by auscultation. There are several affections with which we are liable to confound an abdominal aneurism; but, by careful study, we may diagnose the malady quite certainly. In rheumatism, neuralgia, colic, and disease of the spine, we have pain referred to this region, but there is an entire absence of physical signs. A simple pulsation may also take

place in the abdominal region, not due to aneurism, as in hysteria, pregnancy, or from heart disease. The history of the case, in hysteria, with absence of tumor and peculiar thrill, would be sufficient to exclude it, while the signs of pregnancy, both presumptive and positive, would show us that condition. A pulsation from disease of the heart would be detected by examination of the thorax, with the stethoscope, and the usual signs of organic mischief. A tumor, the result of an enlargement of any of the internal viscera, as the left lobe of the liver, cancer of stomach, disease of pancreas, etc., etc., may encroach on the aorta and cause a pulsation. The history of the case, percussion, and a close analysis of all the symptoms will, as a general thing, give us the correct diagnosis.

SERVICE OF PROF. N. S. DAVIS.

Reported by S. A. McWILLIAMS, M.D.

February 10th, 1870.—CASE I.—A boy, aged 10 years, laboring under an attack of rubeola. As the case was at the stage of full development of the cutaneous eruption, the class were required to examine it minutely, with an explanation of the differences between it and the eruption of scarlatina, on the one hand, and small-pox, on the other. It was remarked, that the disease was of a specific character, having its definite period of premonitory fever, of eruption, and convalescence; and when uncomplicated by other diseases, seldom required the active interference of medicine. The patient should neither be stimulated with hot drinks, to force out the eruption, nor catharticised or depleted in any way, under the vain hope of relieving the fever. The first only adds to the discomfort of the patient and increases the danger of bronchial and pneumonic complications; and the latter retards the appearance of the eruption, unnecessarily debilitates the patient, and often induces diarrhœa or dysentery, in the latter stages of the disease.

Patients laboring under rubeola should be kept quiet, in a comfortable temperature, reasonably well ventilated, and allowed simple, light nourishment and cooling drinks.

If the cough is very harsh and there is much soreness in the chest, an anodyne and expectorant mixture, consisting of—

℞. Comp. Syrup, Squills, ---------- ℥iss.
Camph. Tinct. Opii, ---------- ℥iss.

mixed, may be given, in doses of one teaspoonful to adults, every three or four hours. The severer class of cases will also be benefited by a powder of six or eight grains Dover's powder, and one of calomel, each night, during the first three days, and and followed by a laxative, as soon as the eruption is fairly established on the skin. If, in the progress of the disease, it becomes complicated with either broncho-pneumonia, diarrhœa, or dysentery, these affections must be treated with their appropriate remedies.

NEPHRITIS, OR ACUTE BRIGHT'S DISEASE.

CASE II.—G. H., aged 22, was admitted into the hospital after the acute symptoms had passed. His body is universally dropsical; the whole surface blanched and tumefied. The countenance is pale and puffy, with a heavy, stupid expression. While he sits up, his feet and ankles are more swollen, if he lies down, his face and eyelids swell. His water is nearly one-third albumen, scanty, and of high specific gravity. Dropsy is not a disease, but only a symptom, in this case, of inflammation of the kidneys. As the albumen escapes, it leaves the blood less viscid and more watery. The blood corpuscles diminish in number as the disease proceeds. Exosmosis now readily takes place, and the watery element obeys the laws of gravitation, and seeks the most dependent portions. Much benefit is frequently derived, in this stage, from a dr., four times daily, of the following:—

℞. Fl. Ex. Scutellaria,---------- ℥iij.
Acetate Potass, ---------- ℥iv.
Tinct. Digitalis,---------- ℥j.

If stomach is irritable and appetite poor, benefit may be derived from—

℞. Subnitrate Bismuth, ---------- gr. v.
Lupuline,---------- gr. iss.,

every six hours.

In the latter stages, the ferruginous preparations are found to improve the tone of the capillaries. When the kidneys do not secrete urine, for want of sufficient activity of the vaso-motor nervous system, and the bowels are bloated with gas, from the same cause, small doses of nitric acid and strychnine frequently produce very beneficial effects, both by increasing the urinary secretion and the action of the muscular coat of the bowels. The warm bath, two or three times per week, is also a material aid in determining to the skin and relieving the kidneys.

TYPHOID DYSENTERY.

February 17th. Prof. N. S. Davis called the attention of the class to a middle-aged lady, admitted to the hospital recently. She had complained of great pain in the right side, accompanied by nausea. The pain was in that locality where the liver, gall-bladder, and colon touch each other, so that it might be referred to either, or to rheumatism of the muscles covering them. There was no enlargement of the above structure, as there was no evidence that the patient ever had rheumatism, in any part of the body. To subdue what was supposed to be a local inflammation, the following was prescribed every four hours:—

℞. Sulph. Morph, ---------- gr. $\frac{1}{8}$
Hydrg. Chlor. Mitis, ---------- gr. ij.

After four powders, the bowels were found to be frequently opened. The discharges were bloody serum, with very little fœcal matter. The abdominal pains were severe, the tongue coated and brown, the skin congested, indicating feeble capillary circulation, and the stomach was still irritable. She was directed a powder of tannate of quinine, two grains, and sulphate of morph., one-quarter of a grain, every four hours, and a teaspoonful of an emulsion of oil of turpentine and tincture of opium between. Beef-tea and milk porridge for nourishment. During the succeeding 24 hours, the pain abated, but the intestinal discharges continued frequent, and of the same dark, bloody serum, with a cool skin, and feeble, quick pulse. The turpentine and laudanum emulsion was continued, with the

addition of eight drops of chloroform to each dose; but instead of the powders of tannate of quinine and morphine, she took a teaspoonful of the following, just as often:—

℞. Strychnine, ---------- 1 gr.
Nitric Acid,---------- ℥j.
Simple Syrup,---------- ℥j.
Water,------ ---------- ℥ij.

Mix, and take in sweetened water.

She was also directed to have an enema of acetate of lead, 10 grains; tinct. opii, ℥ss; and cold water, ℥ij, after every second evacuation of the bowels. Under this treatment, her symptoms began to improve. The intestinal discharges were less frequent and without blood; the pulse more full and less frequent; the extremities warmer, and the skin better color. She retained the emulsion, and chloroform, and nourishment, in small quantities, but complained much of the strychnine solution which was discontinued. At the present time, the skin generally is cool, but the capillary circulation good; pulse 100 per minute, and weak; abdomen not tympanitic; tongue and mouth moist, and bowels quiet. The symptoms of the patient were represented as indicating the commencement of convalescence, but accompanied by great feebleness, with decided impairment of the texture of the mucous membrane, of the lower half of the intestinal canal. The leading objects of treatment now should be to reëstablish digestion and nutrition, and to allay the sensitiveness of the mucous membrane, until it had more fully recovered the integrity of its texture. To accomplish these objects, the Lecturer advised the continuance of a porridge of sweet milk and wheat flour, in small quantities, for nourishment, and a powder of sub. nitrate of bismuth, 6 grs, and sulph. morph, $\frac{1}{6}$ gr., every 4 hours. And if there occurred any nausea, to allay it by teaspoonful doses of the following:—

℞. Aromat. Spirits Ammon,---------- ℥iij.
Tinct. Opii *et* Camph., ---------- ℥j.
Simple Syrup, ---------- ℥j.
Aqua,---------- ℥j.

Mix.

P.S.—Several weeks have elapsed since the above was written, and we learn that this patient continued to improve daily, until she was discharged well.

EXTRACT FROM FOREIGN CORRESPONDENCE—THE OLD UNIVERSITY OF BOLOGNA.

VENICE, *Feb. 20th, 1870.*

DEAR FATHER:—I left Florence on Thursday last, coming on as far as Bologna, where I stopped over a few hours, in order to visit the *old* and once celebrated University of Bologna; an institution which numbered at one time 4000 students and 300 professors; its medical school, especially, being for a long time the most celebrated in Europe. It was here that the first human body was dissected and the first anatomical preparations made. The museum is still one of the most complete and extensive in the world, both in human and comparative anatomy.

The library comprises some 15,000 volumes; among them some very valuable manuscripts. The celebrated linguist Mezzofanty, who is said to have spoken fluently 42 different languages.

It is a curious fact, in connection with this university, that several of the most important chairs—those of History, Natural Philosophy, Literature, and even Anatomy, have, at different times, been filled by *ladies*. A wax figure of the lady Anatomist was pointed out to me, in the museum, bending over the table with scalpel in hand, as natural as life, and surrounded on either hand by her own preparations. Another young lady, the daughter of one of the Professors, lectured on history, and is said to have been so beautiful that she was obliged to lecture with a curtain before her face, in order that the attention of the students should not be distracted from the subject of her discourse.

The university is still honorably maintained, there being some 400 students in attendance, I was told. There is quite an extensive hospital in connection with the medical school, where

regular clinical instruction is given. I had intended to remain over long enough to attend some of the lectures and clinics, but the weather was very cold and unpleasant, the hotel uncomfortable—no carpets on the floors, and no means of warming any of the rooms—so that I did not think it prudent to remain long, but hastened on here, in hopes of finding pleasanter weather. It is no better here, however—cold, damp, and uncomfortable.

F. H. D.

Correspondence.

A REMARKABLE FALL.

Mount Carroll, Ill., *March 27, 1870.*

A Miss A. B., age 13, while sliding on the snow, February 5, accidentally ran over a perpendicular precipice of 54 feet (measured), alighting on the ice of the mill-dam below. The sled was broken. She was soon found and taken home, soon recovering sensibility; no bones were broken.

I was called in consultation with Dr. Etter and Dr. Miller, on the following day. There was some soreness in the gluteal regions and about the pelvis; the bladder was paralized, so as to require the use of the catheter three times. Temperature 101°. She made a complete recovery in two weeks. Had she been in the same condition from a fall of six feet, the friends would have seen no cause for alarm.

HENRY SHIMER.

Relapsing Fever In Edinburgh.—This fever has at last broken out in Edinburgh, in two different localities, without, we believe, any contagious influence being traceable in either case. The history of this outbreak, carefully recorded, as we hope it shall be, must form one of the most interesting episodes in the modern history of fever, as well as a not unimportant contribution to the vexed question of change of type.—*Edinburgh Med. Journal, March, 1870.*

Selections.

OXYGEN GAS AS A REMEDY IN DISEASE.

By ANDREW H. SMITH, M.D., New York.

CHAPTER I.

History.—The therapeutical history of oxygen dates almost from the moment of the discovery of gas. A few months after he had succeeded in demonstrating oxygen as a separate principle, Priestley discovered its relation to animal life. He found that a mouse, confined in a limited quantity of this gas, lived, at least, twice as long as in a like quantity of common air. This fact led him at once to the suggestion, that this agent might be usefully employed, in cases of disease, in which there was deficient vitality. At the same time, the effect of plunging a burning body into oxygen, inspired him with a misgiving that oxygen could not be inhaled to any considerable extent, without danger of exciting excessive action in the system; that the patient would "*live too fast*"—a phrase which, down to the present day, never fails to rise to the lips of the practitioner, to whom this therapeutic measure is suggested for the first time. Thus early were the possible remedial uses of this agent foreseen, and, at the same time, an erroneous idea advanced, which has maintained its hold upon the professional mind, and prevented much good which might otherwise have been attained.

During the 15 or 20 years following the discovery of Priestley, attention was directed more to the physiological and chemical relations of oxygen than to its use as a remedy. The part played by it in the animal economy was made the subject of investigation by Spallanzani, Fontana, Barthollet, Lavoisier, and others. To Lavoisier belongs the credit of first demonstrating the composition of the atmosphere and the changes produced in the blood by respiration. Following in his footsteps, Spallanzani showed that the consumption of oxygen was in direct ratio to the muscular activity of the animal. For instance, he found that the chrysalis consumed an exceedingly small amount, the caterpillar a much larger proportion, while the active *imago* demanded a very large quantity for its support.

These researches led to the grand discovery, that the new element was the only one, a constant supply of which was nec-

essary for the continuance of life. Food and drink could be withheld for days; even the nitrogen of the atmosphere could be excluded for hours, and yet no serious injury would result. But the animal *began to die* from the instant the supply of oxygen was cut off. No other element stood in this relation to life. No wonder, then, that it was called *vital* air, and that its discovery was thought to have begun a new era for humanity.

The first case in which oxygen was actually employed as a remedy was one reported by Caillens, in 1783. I can find only a reference to this case, which was published in the *Gazette de Sante.* But, in the year following, Jurine, of Geneva, published an essay, in which he cites, at some length, a case of phthisis in a young lady, which was very much benefited by daily inhalations of oxygen. In 1789, Chaptal, of Montpellier, reported two cases of phthisis, in one of which the gas produced great relief, while its use was continued, but in the other the effect was not beneficial.

At about this period the French Government desired an expression of opinion from the academy, upon the value of oxygen as a remedy, and Fourcroy was selected to prepare a report. In this report, and in other works which followed, he resigned himself to a current of speculation, which drifted him far away from the truth. He saw the effect of oxygen in the action of every remedy, even in muriatic acid, the composition of which was not then known. He claims to have employed oxygen in a considerable number of cases of phthisis, and to have noted a rapid improvement for two or three weeks, after which a violent inflammatory action was set up, and the progress of the disease was greatly accelerated.* But his subsequent experiments on animals, in which he describes a state of fever occurring, which eventuated in gangrene of the lungs, led to the suspicion that the gas which he employed contained some irritating impurity, which the imperfect chemistry of the day did not enable him to discover. He became, nevertheless, the founder of a school which interpreted all therapeutical effects by the supposed relation of the agent employed to the oxygen of the system. But it was not until Beddoes began his observations that any valuable practical results were obtained.

In 1789, Beddoes published his book, entitled "Considerations on the Factitious Airs." He was at that time Professor of Chemistry at Oxford, but none the less devoted to the practice of medicine, in which he had already attained a high posi-

*Annales Chimie, 1789.

tion. To him belongs the credit of being the first to approach the subject, without a theory to sustain. It was not until he had accumulated a large number of facts, that he attempted to arrange and classify them. His attempts at generalization were not always attended with the happiest results; but the readiness with which he relinquishes a theory the moment it is found to conflict with fact, gives a rare impression of candor and impartiality to his work. The scope of the work includes observations upon several gases besides oxygen, especially carbonic acid and hydrogen.

His physiological experiments are of great interest. The principal results which he arrived at were the following:—

Oxygen produces a remarkable power of resisting asphyxia. It appears that when the blood contains an unusual amount of oxygen, the animal is better able to support a deficiency of respirable air, or even the presence of an irrespirable gas.

Animals which have respired oxygen resist longer the action of frigorific mixtures.

The action of oxygen seems to be localized principally in the muscular system.

Oxygen is in the highest degree a stimulus to the irritability of the heart and bloodvessels.

The last conclusion is one which succeeding observers will scarcely indorse to the fullest extent. As a stimulant to the circulation, oxygen is certainly far inferior to alcohol; indeed, in many cases, its stimulating effect is scarcely perceptible.

A few isolated cases of success, in the therapeutic use of different gases, encouraged Beddoes to set on foot the project of a Pneumatic Institute, in which this mode of treatment could be tested on an extensive scale. The plan enlisted the co-operation of Sir H. Davy, who gave himself with ardor to the chemical part of the work, and of the eminent engineer James Watt, whose genius left nothing to be desired in the mechanical appliances for administering the gas. Probably a more brilliant triumvirate was never combined in the furtherance of a scientific object.

In pursuance of their plan, a building was erected by public subscriptions. It contained small compartments, the atmosphere of which could be charged with any desired gas. In these rooms, the patients were allowed to pass a certain time daily.

The principal results obtained by the use of oxygen are summed up in the following table, from a review of Beddoes's work, which was published in the *British Library:*

CASES TREATED.	CURED.	RELIEVED.	NOT BENEFITED.
Obstinate Ulcers	2	2	--
Leprosy (?)	5	--	--
Spasms	3	2	--
Gutta Serena	--	2	3
Chlorosis	5	2	--
Epilepsy	1	--	5
Asthma	10	9	3
Cancer	--	3	--
Dropsy of the Chest	2	1	1
Hypochondria	--	1	--
Dyspepsia	3	1	--
Dropsy	2	1	1
Hydrocephalus	--	1	--
Headache	2	2	--
Poisoning by Opium	1	--	--
Paralysis	2	1	1
Scrofulous Tumors	2	1	--
Deafness	1	--	--
White Swelling	1	--	--
Scorbutus	1	--	--
Venereal	1	--	--
Melancholy	1	1	--
General Debility	1	--	--
Continued Fever	1	--	--
Intermittent Fever	1	--	--
Coldness of Extremities	1	--	--
Total	49	30	14

It will be observed that no cases of phthisis are included in this table. The explanation of this is to be found in the peculiar views entertained by Beddoes, as to the relation of oxygen to this disease. Accepting, without question the reports of Fourcroy, as to the ultimate acceleration of the disease by oxygen, he framed the theory that in phthisis there was a change, either in the constitution of the blood or in the substance of the lung, that favored the absorption of oxygen, which was therefore already present in excess. For this reason he considered oxygen as absolutely contra-indicated.

In scorbutus, on the contrary, he supposed that there was a deficiency of oxygen in the system, which he thought should be supplied by artificial means.

The labors of Beddoes did much towards establishing the true position of oxygen as a therapeutic agent. They demonstrated, on the one hand, that the ideas at first entertained as to its curative power were extravagant; and, on the other, that it was an agent capable of producing good effects,

in many cases not reached by ordinary means. The number and variety of diseases, in which the treatment was found beneficial, suggest, at first sight, a certain air of charlatanism, but subsequent observers have corroborated nearly all his statements. Nor, when we consider the physiological relations of oxygen, is it more surprising that its use should be applicable to a large range of cases than that modification of diet should be beneficial in so many diverse diseases.

It is very remarkable that results as satisfactory as those obtained by Beddoes should not have led to a more general adoption of the treatment. But, with the exception of Hill and Thornton, who were contemporaries rather than successors of Beddoes, scarcely any British physician seems to have become interested in the matter, and it was allowed to die out with its original promoters. This was, doubtless, largely due to the difficulties which then beset the production of the gas, and its transportation to the bedside of the patient. Chemical manipulations were then but little understood, and chemical apparatus was very imperfect. Caoutchouc was unknown; and this simple fact alone would have made that very difficult which is now extremely easy. Indeed, when we consider the part which this substance now plays in the manipulation of the gases, it is not too much to say that its introduction was a necessary preliminary to their general use as remedies.

While Beddoes was carrying on his observations in England, the therapeutic use of oxygen was exciting no little attention in Germany. Numerous experiments and observations were made, during the decade preceding the opening of the present century. Prominent among them were those of Girtanner, who, following in the footsteps of Fourcroy, gave arsenic dissolved in nitric acid for a large range of complaints, under the impression that the solution imparted oxygen to the system. He was charmed with the effects of *oxygen*, given in this way, in *intermittent fever*. In the midst of similar speculations and theories, which seem to have taken the place, for the most part, of observations on the practical use of the gas itself, it is not surprising that little real progress was made in determining the true value of the latter.

At Geneva, however, the use of oxygen fell into more practical hands. The results obtained by Jurine served to encourage others. Odier, then a prominent physician at Geneva, took up the new treatment with great zeal, and the *Society for the Advancement of the Arts and Sciences* caused the founding of an institution similar to that of Beddoes. But, as in the

former case, this was short-lived; and with its decline the whole subject of the medicinal use of oxygen sank into oblivion. The frightful epidemic of cholera in Europe, in 1832, brought it again into momentary notice, but, as it failed to answer the expectations of those who employed it, it relapsed into its former obscurity.

It is only within the last fifteen years that any serious attempt has been made to bring this agent again into use. Dr. Riadore, it is true, published some observations upon its use, in 1845, recommending it in cases of indigestion, debilitated conditions of the liver and kidneys, nervous affections, asthma, etc. But his cases were not numerous or striking, and failed to arouse the attention of the profession.

In 1857, appeared the first edition of a work on Oxygen, by Dr. S. B. Birch, of London. I have not been able to procure a copy of this edition, and the second, issued in 1868, seems nearly a new work. The writer claims to have presided at the *renaissance* of oxygen, and takes to himself the credit of having instigated all that has been done in the past few years to place its use on a solid foundation. His book consists of a selection of cases, preceded by some general remarks upon the properties and uses of oxygen, its *modus operandi*, *etc.* His ideas with regard to what he styles the *quasi-nascent* condition of oxygen are very peculiar, and are not borne out by the experience of others. Moreover, his style is singularly obscure, and his book lamentably lacking in practical directions for the administration of the remedy. While constantly insisting upon the necessity of *judiciously* selecting cases for treatment, of *judiciously* administering the gas, and of the *judicious* use of adjuvants, etc., he does not give a single practical rule for determining what is judicious in the premises. The cases which he publishes are very striking, one might almost say marvellous; and the impression which the work, as a whole, is calculated to make upon the reader is, that in the hands of the author, oxygen is almost a panacea, while, at the same time, it would be hopeless for the general practitioner to attempt to grapple with a treatment so intricate, and demanding such peculiar skill.

In sharp contrast with this work is the article on Oxygen, in Demarquay's *Essai de Pneumatologie Medicale*, published in Paris, in 1866. A little too diffuse, perhaps, it is still plain, simple, and to the point. The author tells his story as of one who has studied the literature of the subject, made some experiments himself, and treated quite a number of cases by the use of oxygen, sometimes successfully, sometimes not. With refer-

ence to its use in some diseases, while giving the experience and opinions of others, he states frankly that he has had no experience himself, and does not feel competent to judge of its merits. While it appears to me that some of his experiments on the physiological effects of the gas are defective, yet, others are novel and extremely valuable. His article is marked by perfect candor and frankness throughout, and is by far the best treatise upon the subject extant.

Dr. Hermann Beigel, in his work on Inhalation, published in London, in 1866, presents a few considerations upon the use of oxygen, and cites a number of cases from his practice, in which he has used it with more or less benefit. He invented an apparatus for the production of the gas, according to Fleitmann's process, from the chloride of lime. His treatment of the subject is candid and unpartizan, and his conclusions demand respect.

A new era in the history of oxygen is being inaugurated by the invention of Téssie du Môtay, by means of which the gas can be produced in immense quantities from the atmosphere, and at an insignificant cost. Its possible future, in relation to medicine and hygiene, can as yet be only dimly discerned. When we shall be able to regulate the proportion of oxygen in the atmosphere of the sick-room, as easily as we now regulate the temperature; when closely packed and ill-ventilated tenements can be supplied with this element, the free enjoyment of which is necessary to health; when by its use the contamination of the atmosphere, by the furnaces of factories and machine shops, shall be prevented or counteracted, who can tell what will be the sum-total of the result? Yet all this seems now attainable, whenever the public shall become sufficiently awake to its importance.

CHAPTER II.

Modes of Preparation and Administration.—In the preparation of oxygen for medical use, *purity* is, of course, of the very first importance. Undoubtedly, many of the effects formerly attributed to oxygen, such as the production of bronchial irritation or inflammation, and even of pneumonitis, were owing to impurities in the gas employed.

The first substance from which oxygen was isolated was the peroxide of mercury, and in all the earlier experiments, the gas employed was obtained from this source. It was not long, however, before cases of ptyalism occurring, warned experimenters of the danger of using the oxides of mercury for this purpose.

Chaptal showed, by carefully conducted experiments, that oxygen so prepared contained an appreciable quantity of the metal. The peroxide of manganese was then substituted, and, finally, chlorate of potash.

Recently, quite a number of processes have been added to the list, so that it now embraces a large range of procedures, by which oxygen may be obtained with more or less facility. I will touch briefly upon the more prominent of these, only one having been found by experience to be really adapted to the use of the physician:—

1. Decomposition of binoxide of manganese. This is accomplished by heating the oxide to a red heat in an iron retort, or by treating it with sulphuric acid. In the first case, a high heat is required, and in the second the acid is disagreeable and dangerous in general practice. Moreover, the gas contains four or five per cent. of nitrogen, from the impurities usually contained in the manganese. If commercial acid is used, it also imparts its impurities to the gas, and among them usually a certain proportion of arsenic. These considerations have led to the complete abandonment of this method in practice.

2. The decomposition of sulphuric acid, or sulphate of zinc. This process depends upon the decomposition of sulphuric acid by heat into oxygen and sulphurous acid, or that of sulphate of zinc into oxygen, sulphurous acid, and oxide of zinc. It is probable that oxygen could be produced in large quantities, in this manner, at a very small cost, so that it would be available for industrial purposes; but, for the use of the physician, the complexity and cost of the apparatus required render it an undesirable method.

3. Process of boussingault. This consists in procuring oxygen from baryta, in utilizing the property which the latter possesses of fixing the oxygen of the air at an elevated temperature, and giving it off again when the temperature is raised still higher. It is difficult to manage, however, and the results are not satisfactory. The apparatus, also, is bulky and expensive.

4. Reaction of sulphuric acid upon bichromate of potash. This reaction results in the production of oxygen and chrome alum. About 16 per cent. of oxygen is yielded by the bichromate. This yield is too small to render the method desirable, aside from the objections belonging to every process, which requires a powerful acid to be placed in unskilled hands.

5. Decomposition of chloride of lime by cobalt. The oxide or any of the salts of cobalt have the property of inducing a

species of catalytic action between chlorine and lime, from which free oxygen and chloride of calcium result. An extremely minute quantity of cobalt only is required. If a stream of chlorine gas is passed into warm milk of lime, containing a little of a salt of cobalt, in solution, the chlorine is absorbed, and oxygen is given off; and, at the close of the process, chloride of calcium will have taken the place of the lime. This method of procuring oxygen is known as Fleitmann's process. Now, by using chloride of lime, we have the chlorine and the lime united in one substance; and, by merely adding the cobalt, and pouring on a little hot water, the process is greatly simplified. The gas, however, contains considerable chlorine, and the yield is small in proportion to the quantity of material employed. This process is the one recommended by Dr. Beigel, for prepairing oxygen for medical use; and his recommendation is sustained by Birch, who, however, prefers compressed oxygen, when it can be obtained. I have given the method a trial, but, in my hands, the quantity of gas was so small, and the quality so inferior, that I abandoned its use. However, as the cost is very slight, it might be used with advantage in office practice, where a large stationary apparatus could be employed, and where arrangements could be made for washing the gas through an alkaline solution to remove the chlorine. But, for use at the bedside, an apparatus, small enough to be portable, would not yield the gas in sufficient quantities.

It remains to consider the method of obtaining oxygen by the decomposition of chlorate of potash. This substance having the formula $KO, ClO^5 = KCl + O^6$, is broken up by heat into oxygen and chloride of potassium.

By mixing with the chlorate a little peroxide of manganese, the disengagement of the oxygen proceeds with greater rapidity and requires much less heat. It is usual to invoke the action of catalysis to explain this, but it seems to me to be owing simply to the facility with which the manganese conducts the heat and diffuses it through the whole mass. Chlorate of potash alone is an exceedingly bad conductor of heat, as is also chloride of potassium. Hence the action of slight degrees of heat is confined to that part only of the mass exposed, which is in contact with the retort. But the manganese, being a heavy metallic substance, transmits the heat readily from particle to particle of the salt. Any other substance having an equal conducting power will do as well, provided it will not combine with oxygen. I have succeeded admirably with the

black oxide of copper. Sand may be used, but with less advantage, as it is comparatively a poor conductor. It is generally stated that this process yields perfectly pure oxygen gas.

This, however, is not the case if the evolution is at all rapid, as the gas will then be slightly contaminated with chlorine. There is also another impurity, not noticed in any work on chemistry which I have seen. Pure oxygen, as is well known, is invisible, yet the product from chlorate of potash has usually more or less of a smoky appearance, when first evolved. If the gas be allowed to stand for half an hour, or an hour, it will lose this appearance, while the glass vessel in which it is contained will be seen to have a deposit on its inner surface. Under the microscope this deposit is found to consist of minute crystalline particles. If enough of these be collected to respond to chemical tests, they will be found to be chlorate of potash. It would seem, then, that a small portion of the chlorate, instead of being decomposed by the heat, is sublimed unchanged; and such is its insolubility that it is not separated from the gas, except by repeated washings. Not the least harm results, however, from inhaling it, as I have demonstrated repeatedly in my own person.

The quantity of gas procured by this process is very great, amounting in round numbers to 500 cubic inches, for each ounce of the chlorate of potash, or 39 per cent. by weight. The quantity yielded renders this method peculiarly adapted for use in the sick-room, where portability of apparatus and material is much to be desired. Until recently, I have employed a copper flask in which to heat the materials. But I found inconvenience to result from this form of container, inasmuch as the entire quantity of the chlorate was heated at once, resulting in a tumultuous and often unmanageable evolution of the gas. To obviate this difficulty, I have had constructed the apparatus figured in the annexed cut. It consists essentially of a brass retort, in the form of a cylinder, nine inches long and one and a-quarter inches in diameter, resembling in shape a very large test-tube. To the open extremity of this retort is fitted a cover of cast iron, held in place by a clamp, which catches upon a projecting flange surrounding the mouth of the retort. This clamp is tightened by means of a screw. Passing through the cover is the tube carrying the gas into the wash-bottle, and which is arranged at a right angle to the retort. The latter is, therefore, in a horizontal position, and is supported by its connection with the wash-bottle, which in its turn is firmly fastened to a board, forming the base of the whole apparatus. The

tube before referred to passes to the bottom of the wash-bottle, and has, near its lower extremity, a great number of very small holes, through which the gas escapes in fine bubbles. This is important, as it insures a much more perfect washing of the gas. Another tube, merely passing through the cap of the wash-bottle, provides for the passage of the gas into the bag, from which it is inhaled.

The retort is but half filled with the mixture of chlorate of potash and peroxide of manganese, and this quantity is distributed along its whole length, to within an inch of the cover, thus leaving nearly one-half of the diameter of the retort free for the passage of the gas. The heat of a Bunsen burner or of a powerful spirit-lamp is employed, beginning first at the closed extremity of the retort, and moving it along as the material becomes exhausted. The wash-bottle is half filled with a solution of caustic potash.

The advantage of this apparatus is, that only a small portion of the material is heated at a time, and the rapidity of evolution is under perfect control. By having two retorts, and using them alternately, a continuous supply may be kept up, sufficient for any emergency. The whole apparatus, including the bag, may be easily packed in a box ten inches square, and five inches deep, and a supply of gas may be generated in 15 minutes, at the house of the patient.

In using black oxide of manganese in connection with chlorate of potash, it is important that it should be free from protoxide, and from any combustible substance. Neglect of this precaution may lead to an explosion.

The process of Téssie du Môtay is as follows:—Manganate of soda is exposed to a very high heat in iron retorts, and while in that condition, a current of atmospheric air is passed over it. This results in the absorption by the salt, of a large portion of the oxygen which the air contains. The current of air is then shut off, and a current of superheated steam substituted. The steam withdraws from the manganate of soda the added quantity of oxygen, and carries it with it to a condenser, from which the oxygen passes in a pure state into the gasometer. The salt is then subjected to the action of a second portion of air, followed again by a curreut of steam, and thus the process goes on indefinitely. The manganate of soda retains its activity, and loses nothing in weight, so that the only consumption is that of fuel.

For use in the sick-room, the gas may be compressed into cylinders of copper or iron, and thus rendered conveniently portable.

In localities sufficiently near to a factory, this is destined to supersede all other methods of supplying oxygen for medical purposes. The gas is perfectly pure, and the quantity which can be compressed into even a small cylinder is sufficient to meet the requirements of any case likely to occur.

The method of administration of oxygen is very simple. The gas, being in a bag or in a gasometer, is conveyed to the mouth or nostrils of the patient, by means of a flexible tube, terminating in a mouth-piece of glass, hard rubber, or ivory. This being taken into the mouth, or held to one nostril, the patient breathes the oxygen, mingled with a greater or less proportion of common air, one or both nostrils being free for the admission of the latter. The proportion of gas is regulated by the size of the orifice through which it escapes. During *expiration*, the rubber tube is compressed between the thumb and index-finger. When the patient is not able to do this for himself, it may be done by an attendant, who, by watching the movements of the chest, soon catches their rhythm. I prefer this plan to the use of an inhaler, with a complicated system of valves, which always offers an impediment to respiration.

The quantity given will vary from one to two gallons daily, which is sufficient, in some chronic cases, to 80 or 100 gallons, which may be required in urgent dyspnœa. In chronic cases it should be given from a very small orifice, so that the inhalation of four or five gallons will occupy 15 to 30 minutes. Feeble patients should take it in the recumbent position.

The inhalations may be repeated morning and evening, or less frequently, as the case may demand. Some very striking results have followed, when the interval was as great as three days. On the other hand, when respiration is very much obstructed, it may be necessary to give the gas almost constantly, and but little diluted.

Knowing the capacity of the bag employed, and bearing in mind that an adult usually respires from eight to ten pints of air per minute, it is easy to judge approximately of the quantity of oxygen which is being inhaled.

The plan of surcharging the atmosphere of a room with oxygen, and allowing the patient to remain in it for a certain period, has this disadvantage, that, to retain the oxygen, ventilation must be sacrificed. If the room be so large as to do away with this objection, the quantity of oxygen required will be greater than can generally be supplied. These considerations have led to the abandonment of this mode of administration.

Dr. Birch lays great stress upon the gas being given in what he calls a "*quasi-nascent*" condition; that is, he thinks it should be inhaled at once as rapidly as it is generated, or, if not, that it should be kept under pressure until wanted for use. It is enough to say that he brings forward no facts to sustain the alleged advantage of this plan, and that, moreover, others who have not followed it have obtained equally good results.

CHAPTER III.

Physiological Action of Oxygen.—In regard to the physiological action of oxygen, the first question to be determined is, whether it is possible to cause the blood to take up more oxygen than it receives from the atmospheric air; whether the point of saturation is not attained in ordinary respiration. On this point, there was formerly but one opinion. It was thought that there was practically no limit to the power of the blood to absorb oxygen. This idea was no doubt in part based upon the known energy of combustion in pure oxygen gas, and the supposed identity of that process with the retrograde metamorphosis of animal tissue. It was held that the inhalation of pure oxygen would induce rapid chemical action within the body, that a state of general inflammation would ensue, and that destructive metamorphosis would be so much more active than the process of reconstruction, that the vital machinery would soon be spoiled and rendered incapable of continuing its action.

But, after a time, it was observed that these extreme results did not actually take place, that an animal could remain for a number of hours in pure oxygen, without sustaining any apparent injury. This led certain observers to the conclusion that the blood-corpuscle became saturated with oxygen, when common air was breathed, and that it would take up no more, no matter how much was presented to it in the air-cells of the lungs. This view was defended by Regnault and Reiset, who endeavored to sustain it by the following experiment:—They confined animals in oxygen, and after a time examined the gas, and found that it contained no more carbonic acid than would have been exhaled in the same time if the animals had respired atmospheric air. That these experiments were not conclusive, will become apparent as we proceed.

On the other hand, was cited the fact that animals die in a period varying from three to eighteen hours, if confined in an atmosphere of oxygen, and that the tissues present an unusually florid aspect, approaching to a vermilion hue. These

observations I believe to be no more conclusive than the others. On this point, Demarquay says: "Science had already taught what our experiments have confirmed, that animals can live without danger in an atmosphere of pure oxygen, and for a much longer time than in the same volume of air. But beyond a certain limit, these animals at last succumb, and one may then satisfy himself that the medium in which they have respired is still capable of relighting an ignited body; a very evident proof that death has taken place from the oxygen itself, and not from any alteration which it may have undergone from admixture with the carbolic acid exhaled." *

As the test referred to above, that of relighting an extinguished taper, the extremity of the wick being still red hot, is constantly relied upon to prove the respirability of the gas after such experiments, it is well to state at the outset that it is entirely worthless. This is shown by the following experiment:

Experiment I.—Two parts of pure oxygen were mixed with one part of carbonic acid, prepared by the action of sulphuric acid upon marble. A pint jar was filled with the mixture, which sufficed to relight a taper four times.

Demarquay himself states that ten per cent. of carbonic acid, mixed with oxygen, is sufficient to render the latter incapable of sustaining life; yet we find, by this experiment, that the test which he relies upon would indicate its respirability, when containing 33 per cent.

The apparatus employed by Demarquay in his experiments, which are essentially similar to those of his predecessors, consisted of a large cylinder, furnished with two openings, through one of which the animal was introduced, while to the other a tube was fitted, connected with a reservoir of oxygen. The animal, having been placed in the cylinder, a large quantity of oxygen was introduced by the tube, the amount being sufficient to drive out the air in the apparatus, which escaped by the other opening. When it was judged that the cylinder was filled with pure or nearly pure oxygen, both apertures were closed. The animals experimented upon were common fowls, pigeons, and rabbits.

The result of these experiments was, that when the animals were allowed to remain in the apparatus for the space of an hour and three-quarters, and were then killed, nearly all the tissues of the body were found reddened to a greater or less extent, but the venous blood retained its darker hue. Two

* Essai de Pneumatologie Médicale, p. 644.

rabbits were allowed to remain until death took place, which, in one instance, was at the end of 14 hours, and in the other, after 17 hours. At the close of each experiment the gas was found to relight a taper.

These experiments coincide in their results with one of my own, in which the conditions were similar:

Experiment II.—*June* 10, 1860.—A rat was confined in a jar containing about a gallon of pure oxygen, and inverted over water. At the end of two and a-half hours death took place. On opening the body, all the internal organs were found to be of a bright-red color.

It will be observed that, in both these instances, no provision was made for removing the carbonic acid and other products of respiration, and that the gas must have become excessively impure. In the following experiments this omission was corrected:

Experiments III., IV., and V.—*July* 15, 1869.—A pigeon and two mice were confined respectively three, four, and five hours in jars of oxygen, having a strong solution of caustic potash in the bottom, under a stage upon which the animal rested. The jar was so arranged, at the same time, that a small stream of oxygen, from a rubber bag, was constantly flowing into it, and escaping by an aperture of like size. The solution of potash absorbed the carbonic acid, while the gradual change of the atmosphere within the jar was sufficient to prevent a sensible accumulation of other impurities.

These animals, when killed, did not present any appreciable change in the appearance of the tissues.

Experiment VI.—*August* 25, 1869.—At 3 P.M., a pigeon was placed in a jar of oxygen, of the capacity of 300 cubic inches, and the jar inverted over a solution of potash. The following morning the animal was found dead. Upward of 150 cubic inches of oxygen had been converted into carbonic acid, and absorbed by the potash, the liquid rising in proportion in the jar. On opening the body, *no unusual redness of the tissues was observable.* The feathers of the bird, and also the sides of the jar, were wet with the condensed moisture of the breath. The animal was also in a constrained and uncomfortable position, which, doubtless, hastened its death.

The conclusion which I draw from these experiments is, that the lively red color of the lungs, heart, liver, etc., which are described, and which I have myself seen, does not depend upon hyperoxygenation alone, but also upon a coincident retention of carbonic acid in the tissues. The color pervades the intervascular substance as perfectly as the natural coloring-matter pervades the muscular fibre. It cannot, therefore, be ascribed to simple increase of vascularity.

The following experiments show, that in Demarquay's observations, the oxygen is as little chargeable with the death of the animals as with the change in the color of their tissues:—

Experiment VII.—*August* 13, 1869.—A mouse was confined in a jar of oxygen inverted over a solution of caustic potash. At the end of 25½ hours, during which he had neither food nor drink, he was dull and stupid, but, when released, ate greedily, and was soon as lively as ever.

Experiment VIII.—*August* 16, 1869.—A tin box, seven by ten inches, and six inches deep, open at the bottom, and having the top of glass, was placed in a shallow vessel containing a solution of potash. A little above the surface of the solution was arranged a false bottom of wire-cloth, which formed the floor of the apparatus. A circular opening on one side of the box was fitted with a projecting rim, soldered to its edge. To this rim or collar a cap was fitted, and the joint was made air-tight by an india-rubber band stretched around it. This opening was for the purpose of introducing the animal to be experimented upon. A small tube passing into the box was connected with a large reservoir of oxygen. By means of a small stop-cock, the amount of gas passing into the apparatus was so regulated, that a bubble would escape every second or two from under the edge of the box. Within the box was placed an open vessel containing chloride of calcium, to absorb the moisture from the breath, and another vessel with dilute nitric acid, to take up the ammonia exhaled. Food, water, and a quantity of tow for a bed having been provided, a mouse was introduced into the apparatus, and the aperture closed air-tight. Oxygen was then admitted freely, for some time, until all the air was expelled, when the stop-cock was closed to the point already indicated. The animal ate, drank, and arranged his bed, and acted in every particular as mice generally do, until the third day, when he buried himself in the tow, and seemed very quiet. By this time his excretions gave to the gas, which escaped from the apparatus, a very sickening smell.

At the end of four days, the mouse was removed and transferred to a cage, where he recovered at once his accustomed liveliness, and appeared no worse for his unique experience.

This single experiment is sufficient to overthrow the theory of hyperoxygenation of the blood, as the term is generally understood, and to show that the fatal results heretofore observed, as well as the peculiar *post mortem* appearances, were the result of the admixture of the products of respiration with the gas inhaled.

Are we, then, to accept the conclusion of Regnault and Reiset, that inhaling pure oxygen makes no difference with respiration? Clinical observation and facts derived from experiments teach us clearly to the contrary.

The quantity of oxygen in the blood under normal conditions is extremely variable. This follows from the varying exigences of the system. The transition from perfect repose to active exertion implies increased molecular action and increased consumption of oxygen. The blood-corpuscles are the carriers of oxygen, and, as their number remains the same, each one must

assume a greater burden. To explain all the phenomena resulting from the inhalation of oxygen, it is not necessary to assume the absorption of more than corresponds with the extreme limit of this healthy respiratory demand. All the analogies of Nature lead us to suppose that this limit coincides with the point of complete saturation of the blood. To assume a margin beyond it is to suppose a provision against an emergency which can never arise. It is contrary to the economy of Nature that the blood should have the capacity for absorbing more oxygen than Nature can supply.

My view is then, that if pure oxygen be taken into the lungs, only as much will be absorbed by the blood as would be taken up from the air under circumstances involving the greatest possible physiological demand for oxygen. I know that it has been asserted that blood agitated in a vessel with oxygen will assume a livelier red than when agitated with common air. This, however, is a mistake. The change will take place more promptly with oxygen, but the hue will be in the end the same. We may, therefore, assume, that if the blood and the air be brought into sufficiently intimate contact in the lungs, the corpuscles will become saturated with oxygen from the ordinary atmosphere.

Experiment IX.—*August* 20, 1869.—A quantity of defibrinated sheep's blood was divided into two portions. One portion was thoroughly agitated with oxygen, and quickly assumed a bright-red hue. The other was agitated in the same way with common air. The change took place more gradually, but, eventually, when the two jars were placed side by side, no difference in the color could be distinguished.

The portion agitated with air was then placed in a vessel filled with oxygen, which was closed tightly, while its interior was made to communicate with a delicate manometer. After the lapse of an hour, during which the vessel was frequently agitated, no change had taken place in the height of the fluid, in the instrument, thus indicating that no additional oxygen had been absorbed.

How, then, is this appearance of superoxygenation of the blood to be accounted for, since it never occurs when atmospheric air is respired? The conditions which obtain while breathing oxygen, without removing the products of respiration, are entirely *sui generis*. They differ from that observed when air is substituted, in that the portion of carbonic acid may become much greater without destroying life. They differ, also, from the effect produced by confining an animal in a mixture of carbonic acid and oxygen, since, in the latter case, the change is abrupt, while in the former it is very gradual. The

experiments of Count Morrozo, and of Bernard, show what an immense difference, in the effect upon the animal, results from this circumstance. I offer the suggestion, therefore, that the red stain of the tissues is the result of the prolonged action of carbonic acid retained in the blood—life, meanwhile, being kept up, and the activity of retrograde metamorphosis sustained by a *maximum absorption of oxygen.*

When a considerable quantity of pure oxygen is inhaled, there is usually a sensation of freedom about the chest, as if respiration were easier. Some persons describe a feeling of warmth beneath the sternum, such as results from inhaling a slightly-stimulating vapor. Sometimes a slight degree of vertigo is produced. Generally there is a tendency of the blood to the surface, and the hands and feet, if previously cold, become warm. In some cases, this change of the circulation is accompanied by a prickling sensation. The pulse is sometimes accelerated, but more frequently remains unchanged. In cases of debility, it is often reduced in frequency. The temperature is but little changed, if at all. I have sometimes observed a disposition to yawn constantly during the inhalation, and there is generally an inclination afterward to sleep. All these effects are more marked when the gas is inhaled fasting.

In reference to the effect of the inhalation of oxygen upon the amount of carbonic acid formed, and of urea excreted, there has been as yet but little research. The experiments of Regnault and Reiset, upon the first point, have been already referred to. The subject, however, is beset with difficulties, and much caution is required in accepting the results of experiments as to the amount of carbonic acid exaled, when breathing a greater or less proportion of oxygen. Different results will be obtained at different times, when breathing the same medium, under apparently the same conditions as to diet, stage of digestion, exercise, etc. The slightest bodily exertion, or even mental excitement, will vitiate the experiment. In experiments with animals, eructations of gas from the stomach will sometimes add largely to the per centage of carbonic acid obtained.

My experiments, on this point, have brought out an (to me) unexpected result, *viz.*, that the inhalation of a considerable quantity of oxygen is followed, within a few moments, by a temporary *decrease* in the amount of carbonic acid exhaled, as is shown in the following table:—The experiments were made upon myself.

	Hour.	Cubic inches of oxygen inhaled.	CO^2 exhaled per minute.
Experiment XI., July 29, 1869.	4.35 P.M.		21 c. in.
	4.45 "	600	
	5 "		19
	5.18 "		20
Experiment XII., August 3.	3.25 "		22
	4 "	400	
	4.10 "		16
Experiment XIII., August 5.	12.15 "		19
	12.25 "	700	
	12.30 "		16½
	12.45 "		18
Experiment XIV., August 5.	2 "		19½
	2.50 "	400	
	2.55 "		19½
Experiment XV., August 5.	2.55 "		19½
	3.15 "	1200	
	3.35 "		17½
Experiment XVI., August 12.	6 A.M. (fasting)		18
	6.15 "	500	
	6.40 "		17
	7 "		17½

Experiment XVII.—*August* 4, 1869.—A pigeon was placed in a jar containing 300 cubic inches of oxygen, and the jar inverted over a solution of caustic potash. After 20 minutes, the oxygen was removed and replaced by common air. In 30 minutes the volume of air had decreased 13 cubic inches. The following day, the same pigeon was confined again, in the same quantity of air, for the same period, not having previously inhaled oxygen. The decrease amounted to 18 cubic inches. There was no evidence that the health of the animal had been injured by the previous experiment.

The manner in which oxygen produces this effect is not easily explained. It is possible that its immediate action may be like that of alcohol, which is known to cause a diminution of the carbolic acid exhaled from the lungs. This is the more probable from the similarity of its other effects, when well marked, to those which alcohol produces.

Notwithstanding this temporary decrease of carbonic acid, I am of the opinion that the ultimate effect of oxygen is to cause its increase. The increase is probably small, and it would, doubtless, be extremely difficult to demonstrate it conclusively, under normal conditions of activity. Still, it seems to me, that the result of the following experiments could hardly be attributed to mere accident:—

Experiment XVIII.—*August* 12 *to* 24, 1869.—Three observations were taken daily of the amount of carbonic acid exhaled by myself. In all, 20 observations were made, in seven days, nearly every hour of the day being represented.

The average of these observations gave 17.2 cubic inches per minute. During the four following days, eleven similar observations were made—the conditions remaining the same, except that from six to ten gallons of oxygen were inhaled each day in divided doses. The average of these gave 18.9 cubic inches, as the amount of carbonic acid exhaled per minute.

These results, while they coincide with the generally received opinion as to increased activity in the retrograde metamorphosis, as resulting from the use of oxygen, show, nevertheless, that the increase is confined within narrow limits, and thus confirm the view already expressed, that saturation of the blood-corpuscles with oxygen is quickly attained, is a *strictly physiological condition*, and in no way necessitates the setting up of any morbid action within the system.

To test the effect of oxygen upon the amount of *urea* excreted, I made the following experiment:—

Experiment XIX.—*December 8 to 22*, 1869.—The urine for each 24 hours was carefully preserved, and the amount of urea estimated according to Haughton's second formula. The result is given in the following table:

Date.	Gallons of oxygen inhaled.	Urea in grains.
December 8	--	641
" 9	8	624
" 10	8	561
" 11	10	472
" 12	6	472
" 13	6	590
" 14	12	550
" 15	14	552
" 16	18	510
" 17	--	542
" 18	--	601
" 19	--	546
" 20	--	556
" 21	--	495

This table shows a rapid decrease in the amount of urea, during the first four days after beginning the inhalations of oxygen. It then increased again, but did not attain to the former figure. With the cessation of the oxygen, there is again an increase. The average of the days without oxygen is 563 grains; of those with oxygen, 541 grains.

So far as these experiments go, they indicate that oxygen causes a *decrease* in the amount of urea formed. This is surprising, if we are to consider urea as the result of *oxidation* of tissue, as is generally held. More extended observation is

required, before it would be warrantable to call in question the views so ably enunciated upon this point; but, should it be established, that the continued use of oxygen really diminishes the excretion of urea, it would place the latter substance in analogy with the smoke resulting from combustion, a product, it is true, of the combustion, but, at the same time, a measure of the incompleteness of the process.

The quantity of uric acid in the urine is rapidly diminished by the daily use of oxygen. This fact, suspected by Dr. Golden (*Lancet*, March 10, 1866), has been fully established by Kollmann, of Munich.

In the course of the experiments described above, I observed a very striking diminution of the coloring matter of the urine. At the commencement of the experiment, the urine was very high-colored, but, within 24 hours, it became very pale, and remained so for several days after the oxygen was discontinued. This paleness was not owing to an excess of water, as the specific gravity never fell below 1.022, and was usually above 1.025.—*New York Medical Journal.*

Book Notices.

Modern Therapeutics, a Compendium of Recent Formulæ and Specific Therapeutical Directions. By Geo. H. Napheys, A.M., M.D.; one of the Editors of the *Half-Yearly Compendium of Medical Science*, etc., etc. Philadelphia: S. W. Butler, M.D. 1870.

This is a duodecimo volume of 390 pages, published in fair style, and filled with an abundance of formulæ or prescriptions for the various ills that flesh is heir to. This book will prove a great convenience to all such members of the profession as depend on formulas, instead of a knowledge of the principles that govern the action of medicines, for guidance in the treatment of disease.

The Preventive Obstacle, or Conjugal Onanism, the Dangers and Inconveniences to the Individual, to the Family, and to Society, of Frauds in the Accomplishment of the Generative

Functions. By L. F. E. Bergeret, Physician-in-Chief to the Arbois Hospital, Genoa. Translated from the Third French Edition, by P. DeMarmon, M.D. New York: Turner & Mignard. 1870.

This is a neatly published 12mo. of 182 pages. It is largely filled with the relation of cases, not half of which appear to have any bearing on the subjects they are adduced to illustrate. It is written in a style altogether too exaggerated and sensational to merit the name of a scientific monograph.

A Practical Treatise on the Diagnosis, Pathology, and Treatment of Diseases of the Heart. By Austin Flint, M.D.; Professor of the Principles and Practice of Medicine, and of Clinical Medicine, in the Bellevue Hospital Medical College, etc. Second Edition; thoroughly Revised and Enlarged. Philadelphia: Henry C. Lea. 1870. For sale by S. C. Griggs & Co., Chicago. Pp. 550. Price $4.

The high estimation in which all the works of Dr. Flint are held by the profession, and the well-known merits of the first edition of this treatise, render any commendation of this, second edition, unnecessary. It is worthy of a place in every medical library.

The Indigestions, or Diseases of the Digestive Organs, Functionally Treated. By Thomas King Chambers, Honorary Physician to H. R. H. the Prince of Wales; Senior Consulting Physician and Lecturer on the Practice of Medicine, at St. Mary's Hospital, etc., etc. Third American Edition, Revised. Philadelphia: Henry C. Lea. 1870. Pp. 383. Price $3.

This is a new edition of Chambers' well-known work on functional disorders of the stomach. It contains many additional cases, with such modifications in the original text as was suggested or required for their insertion. The edition is exclusively American, a third edition not yet having been called for in England. It is published in excellent style.

Editorial.

Illinois State Medical Society.—This Society holds its next regular annual meeting at Dixon, on the *third Tuesday* in May. The local profession are making arrangements to give members of the Society a very hospital reception.

We are informed by the Permanent Secretary, that he has made arrangements with the Illinois Central, the North-Western, Burlington and Quincy, Rock-Island, and Chicago, Alton, and St. Louis railroads, to carry all members of the State Society to *Dixon*, and return, for one full fare and one-fifth. All who wish to avail themselves of this arrangement should apply to the ticket agents, when they start, for excursion tickets to Dixon and return.

Chicago Medical Society.—At the annual meeting of this Society, held during the first week in April, delegates were appointed to attend the American Medical Association, which meets in the City of Washington, on Tuesday, the 3d day of May, and the State Medical Society, that assembles in Dixon, on the third Tuesday in May.

The following officers were chosen for the ensuing year:—

President, Dr. T. D. Fitch; *Vice-President*, F. A. Emmons; *Secretary and Treasurer*, Dr. C. C. Dumreicher.

The regular meetings of the Society are held on Monday evening of each week.

The New Mercy Hospital.—The spacious and elegant new hospital building, on the corner of Calumet Avenue and Twenty-sixth Street, is now completed, and some of its rooms already occupied by the sick. The location is one of the most pleasant and healthy in the City of Chicago, and easy of access. It is one of the best finished and best apportioned buildings for a hospital that we have ever seen. The amphitheatre is elegantly lighted, and will seat comfortably a class of 300 students. The public wards are light, cheerful, and susceptible of perfect ventilation. The small or private wards, designed

to accommodate but one or two patients, are numerous, and, in all respects, as pleasant as the rooms of a first-class hotel. It is, in the most proper sense, a general hospital, arranged into three departments, medical, surgical, and obstetrical, including diseases of women. The first is under the charge of Professors N. S. Davis and H. A. Johnson; the second under Professor E. Andrews; and the third under Professor W. H. Byford. The entire domestic or internal management is in the hands of the Sisters of Mercy. The cost of the new edifice is not far from $100,000; and we know of no more comfortable place for the sick, outside of their own families, in this country.

Chicago Medical College.—The work on the new edifice, for the accommodation of this institution, is progressing rapidly, and will be complete in every part before the opening of the next annual lecture term, on the first Monday in October.

It occupies a part of the same lot on which the new Mercy Hospital stands; and, when completed, the hospital and college together, all *professionally* under the control of the college Faculty, and subject to no interference by municipal or political influences, will constitute the most complete and comprehensive arrangement for medical instruction, in all departments, that exists in this country. It being the only college in the whole country which, up to this time, has had the boldness to adopt and put in practice, the system of progressive medical education, by requiring some preliminary education, three consecutive courses of lectures, of five or six months each, with close examinations at the close of each, and full hospital clinical instruction, as an essential part of the middle and senior courses, we deem its prosperity a matter of gratification to the whole profession. The class at present in attendance on the summer reading and clinical course is an excellent one, and everything looks fair in the future.

New Medical Journal.—We cheerfully call the attention of our readers to the following prospectus of the *National Medical Journal:*—

In presenting another candidate for public favor, in the form of a medical journal, the publishers are not insensible to the large number of valuable periodicals already claiming a share of professional patronage. The field of labor, however, is broad, and much of practical utility may be gleaned in the path of more experienced reapers. Medicine, in all its departments, was never more prolific of great practical results than at present; the medical mind never more vigorous and prehensile in the pursuit of truth.

There appears to be a peculiar appropriateness in locating a first-class medical journal in Washington City, not only on account of its central position, and the various important interests clustering in and around it, but because it embraces a good share of professional ability, needing only the stimulus to medico-literary effort, which a judicious, liberal, and well-conducted periodical affords.

While the principal object of the journal will be to originate and collate useful information in the various branches of medical and surgical science, it is not intended to ignore those prominent *specialties* which have enlisted the zeal and skill of not a few able and enlightened American practitioners. These cannot much longer occupy a subordinate place in the academies and journals of the country; and it is proposed, therefore, to encourage their cultivation and practice within prescribed professional limits.

The journal will be under the editorial management of C. C. Cox, M.D., LL.D., Professor of Anatomy in Georgetown Medical College, and no pains will be spared to render it useful to the medical public, whose patronage and support it seeks.

Each number will consist of not less than 128 pages, octavo, printed in distinct type, on fine paper, with good, substantial covers, and (for the present) will be published quarterly.

Terms: $3 a year, invariably in advance; single copies mailed to any address for $1.

All contributions intended for the journal, advertisements, or subscriptions should be addressed to Judd & Detweiler, Publishers, Corner of Pennsylvania Avenue and 11th St., Washington, D.C.

Mortality for the Month of March, 1870.

CAUSES OF DEATH,

Accident, machinery	2	Dropsy	3	Lungs, hemorrhage	2
" by fall	4	" of abdomen	1	Mouth canker-sore	1
" fall of coal	1	Dysentery	2	Measles	17
" fracture of skull	1	" chronic	1	" & complications	10
" thro'n fr'm bug'y	1	Ecthyma	1	Metro-peritonitis	2
" railroad	1	Encephalitis	1	Meningitis	8
Abscess, renal	1	Endo-pericarditis, rheumatic,	1	" and dysentery	2
Albuminuria	1	Enteritis	5	" cerebro-spinal	1
Anæmia and dysentery	1	Epilepsy	3	" tubercular	8
Anasarca	1	Erysipelas	5	Nephritis	1
Angina pectoris,	1	" of face	1	Old age	17
Apoplexy	2	Fever, puerperal	8	Ophthalmia	1
Arachnitis	1	" remittent	2	Paralysis	1
Ascitis	1	" scarlet	32	Pericarditis	1
Asphyxia	2	" " complications	6	Peritonitis	2
Asthma	3	" " malignant	14	Pleurisy, chronic	1
Births, still	39	" typhoid	16	Pneumonia	39
" premature	26	Gastritis	2	" & complications	2
Bowels, hemorrhage	1	Gastro-enteritis	1	" broncho	4
" ulceration	1	Heart disease	3	" typhoid	3
Brain, abscess	1	" and liver, fatty degeneration	1	Pyæmia	3
" congestion of	2	" hypertrophy	1	Rheumatism, chronic	1
" compression	1	" organic disease,	2	" inflammatory	1
" inflammation	2	" valvular disease	5	Scrofula	1
Bronchitis	12	Hernia, incarcerated	1	Stomach, cancer	3
" capillary	8	" strangulated	1	Suicide, hanging	1
Biliary calculi	1	Hydrocephalus	3	" poison	1
Breast, cancer	2	" acute	6	" shooting	1
Catarrh	1	" chronic	1	Tabes mesenterica,	18
Consumption	46	Inanition	10	Teething	4
Convulsions	53	Ichorrhæmia	1	" & complications	3
" puerperal	2	Jaundice	1	Tetanus following compound fracture of leg	1
Croup	16	Kidneys, Bright's disease of	4	Throat, canker-sore	1
" diphtheretic	1	" disease	1	Toxæmia	1
" membranous	3	Laryngitis	3	Tumor of abdomen	1
Cystitis,	1	Liver, abscess	2	Uræmia	1
Cyanosis	2	" hypertrophy	1	Uterus, hemorrhage	1
Cynanche Maligna	1	" inflammation and peritonitis	1	Whooping-cough	11
Debility	4	Lungs, congestion	4	" & complications	1
Diabitis	1			Unknown	1
Diarrhœa	1				
" chronic	1			Total	535
Diphtheria	11				

AGES.

Under 1	173	10 to 20	21	70 to 80	18
1 to 2	67	20 to 30	42	80 to 90	6
2 to 3	42	30 to 40	36	Unknown	1
3 to 4	21	40 to 50	26		
4 to 5	16	50 to 60	17	Total,	535
5 to 10	28	60 to 70	21		

Males, 288	Females, 247	Total, 535
Single, 403	Married 132	Total, 535
White, 525	Colored, 10	Total, 535

COMPARISON.

Deaths in March 1870, 535 | Deaths in March 1869, 354 | Increase, 181
Deaths in Feb., 1870, 420 | Increase, 115

NATIVITY.

Bohemia	4	Germany	54	Sweden	4
Canada	4	Holland	1	Switzerland	2
Chicago, Native	92	Ireland	46	Wales	1
Chicago, Foreign	221	Norway	6	Unknown	1
U. S., other parts	82	Poland	1		
Denmark	4	Scotland,	3	Total,	535
England	9				

MORTALITY BY WARDS FOR THE MONTH.

Wards.	Mortality.		Mortality.
1	2	Accidents	10
2	15	County Hospital	12
3	22	Home for Friendless	5
4	16	Hospital Alexian Brothers	2
5	19	Half Orphan Asylum	4
6	23	Immigrants	1
7	27	Marine Hospital	1
8	42	Jewish Hospital	1
9	48	Mercy Hospital,	7
10	8	Protestant Orphan Asylum	2
11	27	St. Joseph Orphan Asylum,	5
12	19	Soldiers' Home	2
13	11	Suicides	3
14	15	St. Louis and Chicago R.R. Dépôt	1
15	32		
16	25	Total,	535
17	36		
18	43		
19	17		
20	22		

THE SALE OF "BITTERS."—The consumption of various stomach bitters is one of the most common, insidious, and perilous forms of tippling. Many a man and many a woman have learned indulgence from this cause. We are glad to see that the Supreme Judicial Court of Massachusetts has recently made an important decision in a prosecution arising from the sale of a bottle of bitters, in which the defendant asserted that he has sold the liquid in good faith as a medicine. The judge trying the case, however, charged the jury that if the "bitters" was an intoxicating liquor, the sale of it in good faith as a medicine was not a valid defence, and this position was maintained by the Supreme Judicial Court. As a consequence of this decision the State Constables are seizing "bitters" under the Massachusetts law against the sale of intoxicating liquors.—*Medical and Surgical Reporter.*

Nephrotomy.—On Thursday, Feb. 3, the operation of cutting into the kidney for removal of renal calculus was performed by Mr. Durham at Guy's Hospital. The theatre was crowded with students and others anxious to see so rare an operation. We believe, indeed, that there is only one instance of its performance recorded, and that was by a surgeon of Venice upon an Englishman, some 150 years since. Two or three stones where then extracted, to the great relief of the patient, a urinary fistula remaining in the loin. Owing, doubtless, as much to the uncertainty of the diagnostic signs of renal calculus as to the supposed risks of the procedure, the operation fell into oblivion, until a paper read before the Medico-Chirurgical Society last year, by Mr. Thomas Smith, of St. Bartholomew's Hospital, again brought the subject before the profession. Although Mr. Durham's bold attempt ended in disappointment, we saw enough to convince us that, as far as cutting down upon the kidney is concerned, there is neither great difficulty nor any apparent grave risk in the proceeding. Mr. Durham made his incision along the edge of the erector spinæ, from the pelvis to the eleventh rib, and quickly reached the hilus of the without difficulty, and with little or no loss of blood, but no stone was found, although the symptoms previously manifested had been such as are considered characteristic of stone in the kidney. The hilus of the kidney and the ureter, for the space of an inch and a-half, were thoroughly examined, but not opened, no stone being felt and their general appearance, as well as that of the kidney, being perfectly healthy. So far from the operation having been injurious, five days later the woman expressed herself as being more free from pain than she had been for a long time! Full details of the case will be published whenever it may be considered to have terminated, whatever the termination may be.—*Medical Times & Gazette.*

Prurigo Treated by Ointment of Iodoform.—Prof. Tanturri, of Naples, has used the ointment of iodoform in obstinate prurigo. This compound, first brought prominently into notice by Bouchardat, is now employed extensively not only for glandular enlargements, but also, owing to its anæsthetic properties, in skin diseases accompanied with intense pruritus; its odor is much more agreeable than that of chloroform, resembling that of safron. Moretin and Humbert recommend it for internal use as possessing all the advantages of iodine, of which it contains 90 per cent., without any of its inconveniences. It exercises upon the sphincters a local anæsthetic effect so powerful

that defecation is sometimes performed unconsciously after its use; it, therefore, forms an admirable suppository in cases of tenesmus, hæmorrhoids, etc. Moûtre's formula is—iodoform, powdered, gr. xx; cocoa butter, ℥j; melt and mix for six suppositories. For frictions, the ointment is used in the strengh of ℥j to the ounce of simple ointment.—*Med. Times & Gaz.*

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ARTICLE XVI.

TYPHOID FEVER, ITS VARIETIES AND TREATMENT.

By A. GIVEN, M.D., Louisville, Kentucky.

This is an idiopathic disease, which is characterized by a forming stage, in which the zymotic agent is at work in the system, from one to ten days before the fever is fully developed. After the stage of febrile excitement has been established, the fever is continuous, and the disease runs its course with a diversity of symptoms that are pathognomonic of typhoid fever and its complications.

This disease has long been known, but was imperfectly understood, until after the research of Louis, who established the fact of its constant anatomical and pathological pecularity. The writers who preceded him discribed it as a variety of typhus, and many of the European authors still so regard it. But their individuality or non-identity is settled beyond the shadow of a doubt.

The nomenclature of this disease is vague. Writers have diligently sought for a name expressive of the pathological condition, but, as yet, none has been found free from objection. Probably the one that is least objectionable is "enteric;" but this does not convey a definite idea of the character of the disease under consideration.

The term typhoid has become so popular, both among the people and profession, that it will be somewhat difficult to change it. But the distinction must ever be kept in view, between this fever and that secondary condition of many diseases, called the typhoid state.

Typhoid fever is primarily a disease of the blood—that is to say, a zymotic action is set up in that fluid, by the presence of the typhoid ferment, by which the fever is developed.

It would be natural to suppose that all the tissues of the body would be more or less affected by a disease so general in its character. But it seems to have an affinity for certain localities, through which the vital powers are more readily reached, and so depressed as frequently to cause the death of the patient.

In whatever country typhoid fever prevails, or whatever the character of the epidemic, it has phenomena peculiarly its own. But each epidemic may differ in its local manifestations. At one time, the disease may expend its force upon the organic functions collectively, while, in other cases, it may select a particular organ for its base of operations.

The abdominal, cerebral, gastric, and respiratory apparatus are the parts most generally affected by typhoid fever. I will, therefore, notice six varieties or conditions, which demand special consideration. The first stage or premonitory symptoms are similar in all; the complication or variety is soon developed, and gives to the disease its peculiar characteristics. The predisposing cause so depresses the vital affinity, and increases the susceptibility of the fluids and solids, that the morbific agent, in passing the rounds of the circulation, selects the weakest part, and there concentrates its forces.

For convenience of description, I make the following tabular view of this fever and its subdivisions:—

Typhoid Fever, ------ { Simple Typhoid, Typho-enteric, Typho-cerebral, Typho-gastric, Typho-pneumonitis, Typho-malarial.

SIMPLE TYPHOID.

Under this head, I propose to notice the clinical history and symptoms that belong to typhoid fever, independently of the complications to which I have referred.

The approach of this disease is so gradual, that we are often unable to tell the precise time of its beginning. The patient complains of a general indisposition and lassitude; there is an aversion to exercise, both mental and physical; the appetite is impaired; the bowels are generally loose; there may be but one stool during the 24 hours, and that is thin and watery. If the bowels do not move, the patient complains of borborygmus; and a small amount of physic will produce the thin and watery stools so characteristic of this disease. There is a little tenderness in the right iliac region, which may be overlooked, in the early stage, unless a close examination be made by pressure. It is often so mild that the patient does not complain, and is not aware of any trouble in that region, until his attention is called to the fact by the physician. Headache is often present, but this seldom in the early stage; the tongue is covered with whitish fur; the pulse is only a few beats above the normal standard; slight pains are felt in the back and limbs. The patient often continues about his employment, in this condition, from one to ten days, when the symptoms grow worse, and he is compelled to take to his bed. He then complains of a sense of chilliness, and sometimes of a severe chill, followed by fever and a dry, husky skin.

The temperature of the body ranges from 98.5° Farh., in the morning, to 100.5°, in the evening; the pulse is from 90 to 110 per minute; the appetite is entirely lost; the bowels move more frequently; and the temperature continues to rise to 101.5°, in the morning, and to 104.5°, in the evening, as the disease advances. If the temperature rises to 105°, the disease is of a grave character; and if it still goes up to 106°, the patient is in great danger, and generally dies.

The tongue becomes thickly coated; sordes gather around the teeth; the countenance assumes a dull expression; a low, muttering delirium sets in; the patient is nervous and has a

buzzing in the ears, which so affects the hearing as often to produce deafness; he sometimes doses, and starts up in a state of alarm; he is easily aroused, and answers questions, but soon relapses into a somnolent condition. If the abdomen be examined closely, between the seventh and fifteenth day of the progress of the disease, a few red spots will generally be found upon it, which may extend to the breast, and also to the extremities. This is called the rose-colored eruption, and is one of the characteristic signs of typhoid fever.

As the disease advances, the patient becomes delirious; the fæces are passed involuntarily; he becomes comatose, picking at the bedclothes or imaginary objects; slipping down in the bed; the skin is bathed with a clammy sweat; the pulse grows quick and feeble; subsultus tendinum is observed; and death often takes place in from six to twenty-one days, from the time the patient takes to his bed. Although this is the course of the fatal cases, yet a large majority of the patients, if seen in time, and the appropriate treatment adopted, begins to improve about the 9th, 14th, or 21st day. The tongue begins to clean from the tip and edges; the pulse grows less frequent; the skin is cooler; the mind becomes clear; the patient sleeps, awakes, and finds himself refreshed; the bowels return to their normal function; there is a desire and relish for food; and convalescence is established.

The tongue, sometimes, instead of cleaning from the tip and edges, throws off its coat in flakes from the centre. In this condition, the prognosis is favorable, but the convalescence is more tedious.

This, then, is the beginning, progress, and termination of simple, uncomplicated typhoid fever. But a more dangerous variety often prevails, or the simple may merge into, or put on, a more violent form, which is denominated—

TYPHO-ENTERIC.

This differs from the former in the degree of lesion in the intestine only. In this variety, the diarrhœa is the first and most constant symptom. The patient complains of tenderness

of the bowels; the stools are frequent, thin, and watery, and of a brownish cast; the abdomen becomes tympanitic, with a gurgling sound in the right iliac region, when pressure is made upon that part; the urine is scanty and highly colored, and is sometimes suppressed or retained in the bladder.

The tongue, which at first was covered with a thin, whitish fur, now becomes brown and dry in the centre, with a thicker coat; the tip and edges are of a crimson hue, and sordes gather around the lips and teeth. As the disease progresses, the abdomen becomes more distended; the stools are more copious and contain dark, fœtid blood, which is an evidence of disintegration of the structures of Peyer's patches. Sometimes the hemorrhage is so great, that the patient is prostrated in a few hours; but, more generally, ulceration of the coats of the ilium takes place gradually, with increased tenderness of the bowels; and after a longer or shorter continuance of these symptoms, the patient is suddenly seized with a violent pain in the right iliac region; he looks distressed and anxious.

These symptoms point to perforation of the intestine, with extravasation of its contents into the peritoneal cavity, which produces inflammation of the peritoneum, and may cause death in from one to six days. However, ulceration and perforation of the ilium does not always cause death. I am a living evidence of this fact; and there are many cases of recovery on record.

During the fall of 1865, I was the subject of an attack of typho-enteric fever; and from the large amount of fœtid blood, and the character of the fecal matter that passed from the bowels, and from the locality and severity of the pain and tenderness, there was unmistakable evidence of an extensive ulceration, if not perforation, of the intestines. This was the opinion of L. Powell, M.D., a talented physician of Louisville, who was so attentive to me during my long and tedious illness. For six months after I became convalescent, I never had a free and easy stool. The right side of the abdomen was tender and felt contracted, and there seemed to be some obstruction to the free evacuation of the bowels. The fæces gave

evidence of having passed through a narrow space. Those conditions were, no doubt, the result of cicatrices, which caused contraction of the muscular coats of the intestine, and thereby diminished the calibre of the bowel, through which the fecal matter had to pass.

There was one other peculiar and very distressing symptom in my case. After I became conscious, I had a feeling as if my body had been severed at the umbilicus. This condition lasted about ten days, when sensation of the extremities began to return, and with it the most intense suffering that I ever experienced. If a thousand needles had pierced my flesh, they could hardly have been more painful. For two months, I suffered more or less from that pricking sensation, and did not regain my usual gait for 12 monts or more. I regarded that partial loss of sensation and of motion as an evidence of the effect produced on the cerebro-spinal system by typhoid poison.

The next variety in the catalogue of complications is the cerebral type, or—

TYPHO-CEREBRAL.

In this, the head symptoms are more marked than in any other. The patient complains constantly of headache, from the incipiency of the disease; and as the fever and temperature of the body increases, he becomes wild and excited, and is soon delirious and talking incoherently. The head is sometimes hot and dry; the patient cannot sleep, and imagines that he is away from home, and is constantly arising from his couch, and attempts to make his escape through an open window or door, or sometimes falls helpless on the floor from exhaustion.

The question naturally arises, whether the head symptoms are the result of inflammation, or of functional derangement. It is believed that the latter is the pathological condition, in the majority of cases. For while persons have died, apparently, from the effect of the cerebral symptoms, *post mortems* proved the fact that the brain and its appendages were free from inflammation, and that the characteristics of typhoid fever were manifest in the ilium; thus proving, beyond a doubt, that

whatever may be the complication or symptoms, the specific agent by which the system is depressed, after changing the condition of the blood, selects the glands of Peyer as the point from which its influence is communicated to the various organs and tissues, either directly through the circulation, or by reflex action.

I do not wish to be understood as saying, that there are no cases of inflammation of the brain and its meninges ever found in typhoid fever; for there are exceptions to all general rules. But, in this disease, depression of the functions is the rule, and inflammation is the exception. Aside from the evidence furnished by *post mortems*, we may reason from a therapeutical point of view to prove this proposition.

The books are unanimous in condemning the use of opium in cerebral meningitis. They declare that it is not only contra-indicated, but is positively injurious. But, on the other hand, every practitioner of medicine is aware of the happy effects of two or three grains of opium, in coma-vigil and typho-mania, of the typho-cerebral type of typhoid fever. So, then, the cerebral symptoms of this disease are not due to inflammation, or, if they are, then opium is the remedy *par excellence* for meningitis. But I do not see that there is anything to be gained by discussing this subject; for it is evident that the typhoid poison is capable of so depressing the nervous centres as to arrest the organic functions, and destroy life as surely as if inflammation had existed.

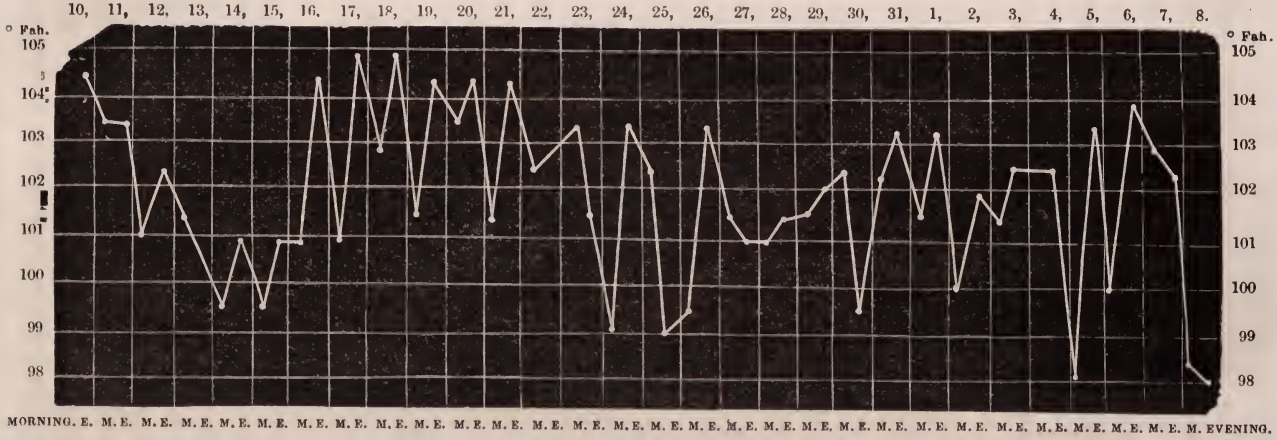
According to my observation, the inflammatory or non-inflammatory character of the cerebral symptoms, in typhoid fever, may be established by the thermometer. In this disease, the temperature varies in accordance with the degree of activity of the typhoid poison. There is always a difference of from 1° to 2° F., between the evening and morning temperatures; and this difference is always observed, whether the evening temperature is rising or falling. The temperature gradually rises in the evening and falls in the morning, until the former reaches 104°, and the latter 103°. When the temperature has reached these points, which is from the third to the sixth day, there is

a decrease, and it often falls as low as 99.5°, in the morning, and 100°, in the evening. This fluctuation continues for a longer or shorter period, when the temperature may again go up, until it reaches 105°, in the evening, and 103° in the morning. Thus the fluctuations take place from time to time, and the oscillations of temperature, between the evening and morning, continue with the same degree of regularity, until the beginning of the stage of convalescence, when the difference of oscillation may reach from 3° to 5°. But, on the other hand, in local inflammations, there is a gradual rise of the temperature, until the inflammation has reached its acme. And as the inflammation begins to decline, the temperature falls rapidly, until the standard of health is again reached.

The following are notes of a well-marked case of typhoid fever, of the typho-cerebral type. John Riccius, aged eight years, nervous temperament, had never been sick before; was troubled with headache, constipation, loss of appetite, sleeplessness, and general languor, from March 4th until the 10th, when he was confined to bed, with an aggravation of all the symptoms just mentioned. At 7 P.M., his countenance was expressive of pain and nervous excitement, with pain and tympanitis of the abdomen, and gurgling in the right ileo-cæcal region; stools thin and watery; skin was hot and dry; tongue covered with a brown fur; temperature 104.5° Farh. The temperature was first taken on the sixth day of the disease, and on each subsequent day of its progress, as shown by annexed table:—

It will be observed, that on the 10th, the thermometer showed a rise of temperature, in the evening, to 104.5°; from the 10th to the 14th, the temperature had a downward tendency, until it fell to 99.5°. It oscillated until the 16th, when it rose to 104.5°, in the evening, and fell again to 101°, on the morning of the 17th, and rose again to 105°, in the evening of the same day. From this time until the 24th, the evening and morning temperature oscillated between 105° and 101°, when it fell to 99°, but arose again to 103.5°, in the evening. Thus the fluctuations continued until the eighth day of April, when the temperature fell to the normal standard, and the patient gradually recovered.

RANGE OF MORNING AND EVENING TEMPERATURE, FROM MARCH 10TH TO APRIL 8TH.


10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 1, 2, 3, 4, 5, 6, 7, 8.
° Fah.
105
104
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MORNING. E. M. E. M. E. M

The reason that there is not so great a lesion of the ilium, in the typho-cerebral type of typhoid fever as there is in the typho-enteric is, because the force of the disease is called from the bowel to some distant organ. And there it may exert such an influence over the organic functions, as to increase susceptibility, destroy vital affinity of the parts, and produce death, by depression of the vital powers. A somewhat common and very dangerous complication is called—

TYPHO-GASTRIC.

Soon after the characteristic symptoms of typhoid fever have been developed, the patient complains of nausea and vomiting, and of a load and pressure in the epigastrium. When vomiting occurs, it is only an ejection of the fluids that have been taken into the stomach. The fluids that are thrown up are sometimes of a yellowish cast, owing to regurgitation of bile. The pulse is quick and full; the skin is dry and hot; the tongue is covered with a dirty-white fur, and is a little brown in the centre. This form of typhoid fever is the most dangerous; and it may be mistaken for gastritis. It frequently destroys life in a few days. Owing to the fact that there is such a strong impression made upon the stomach, the bowels are not so loose as they are in the other varieties; and thus we may overlook the intestinal symptoms. If, however, they be examined carefully, the tenderness may be detected near the ilio-cæcal valve.

Another variety of typhoid fever often occurs in certain latitudes during the winter and spring, which has been named—

TYPHO-PNEUMONITIS.

I have placed typhoid-pneumonia in the classification of continued fevers, because the idiopathic fever precedes the inflammation of the lungs; and the pneumonia is symptomatic, and, therefore, secondary to, and a complication of, typhoid fever. Whereas, in pneumonia proper, we may have a typhoid condition supervening the disease of the lungs; therefore one is the result or consequence of an idiopathic fever, and the other the effect of a primary local lesion.

This disease has frequenly prevailed as an epidemic, in some portions of the United States; and it is sometimes attended with very fatal results. West and central Virginia are localities where it is frequently seen during epidemics of typhoid fever. After the usual premonitory symptoms of typhoid fever have lasted for a longer or shorter period, the patient complains of a sense of chilliness, followed by a dryer and hotter skin; the secretions are locked up; the tongue is dry and of a brownish cast; the face is flushed and of a bluish tint; the pulse is strong, full, and rapid; the countenance is dull and the respiration is quick. This latter symptom is peculiar to pectoral troubles, and calls our attention to a complication of pneumonia.

If the ear be applied to the chest, a crepitant rale may generally be heard in the lower and posterior lobe of the right lung; there is but little or no pain, and but little cough in the early stage. If there is any pain, it is dull, and not the sharp pain of pneumonia proper. Sometimes the symptoms are so slight, that the complication may be overlooked without the aid of auscultation. But as the disease advances, the force of the idiopathic fever seems to be concentrated on the lungs; and we have cough and difficulty of breathing, as in primary pneumonia; but there is a greater degree of prostration.

The last complication of typhoid fever to which I call attention is—

TYPHO-MALARIAL FEVER.

This disease prevails endemically and epidemically in malarial districts only, and partakes both of typhoid and malarial fevers. After the usual though aggravated symptoms of typhoid fever have lasted from three to seven days, the patient complains of a cold sensation or severe chills, with aching of the back and limbs; the tongue becomes coated in the centre with a thick, brown fur; the edges and tip have a glossy, red appearance. The bowels may be inclined to constipation or diarrhœa, but generally the latter. The patient is nervous, and as the disease approaches its acme, delirium sets in, and he

soon sinks into a profound stupor, and death often takes place, in from seven to fifteen days after the chills make their appearance.

There is one peculiarity about this disease that may lead the physician into error in diagnosis. The patient is found perspiring freely, and has all the appearance of having a malarial fever; he complains of being cold, even while in this condition; and the pulse is never less than 110, and may reach 140, while he is sweating profusely; the tongue is still dry, in this stage, and the temperature is not reduced. It has been observed that the cases which perspire copiously are the most dangerous and difficult to treat. As a general rule, if the patient perspires freely, the diarrhœa is easily controlled; but when the skin becomes dry, the bowel affection is very troublesome. The gastric and cerebral functions are generally deranged, in this form of the disease; nausea and vomiting are almost always present. There is no regularity in the appearance of the rose-colored eruption; it may show itself on the seventh day, and from that to the twenty-sixth. I have generally found audamina over the body, instead of the rose-colored eruption on the abdomen.

Some writers have described another variety, which comes on suddenly, with chills and remissions, similar to remittent fever, and followed by typhoid symptoms. I am inclined to believe that those are aggravated cases of remittent fever, which merge into a typhoid state. For in the cases which I have seen, there seemed to be a comingling of the symptoms of typhoid and remittent fever, throughout the whole course of the disease—that is to say, the primary and general symptoms were characteristic of typhoid, and the incidental were those of remittent.

During the summer of 1863, I treated seven cases in the northern part of Illinois. They were well-marked cases of typhoid fever, in the beginning, and continued so through the first five or six days, after which the patient complained of chilly seneations, followed by a hotter and dryer skin. The pulse would often reach 140 per minute. This febrile excitement would sometimes continue for 12 or 18 hours, when the

patient would break out into a copious perspiration. I have seen patients perspire freely for 24 hours, and then the skin would become hot and dry for the next 24 or 30 hours. I noticed that during the most profuse sweatings, the patients complained of being chilly, and would draw the covering around their necks. The pulse would fall only a few beats in this stage. The patients were inclined to be drowsy, but were easily aroused, and would soon relapse into a dreamy or half conscious state.

The apparent regularity of the sweating stage, and the character of the perspiration, gave evidence of the presence of marsh miasmata in the system. But every other symptom pointed unerringly to a typhoid poison. One of those patients died, and the others were from 14 to 21 days before convalescence was established.

The liver is frequently deranged in this disease. The fluids ejected from the stomach are often colored with bile, and the conjunctiva has a yellowish cast.

Hiccough is often a troublesome symptom, and is much more frequent in this, than in the other varieties of typhoid fever.

Causes.—The cause of typhoid fever is not well understood. There is no doubt that a specific agent is formed by the decomposition of animal matter, or a chemical change takes place in the exhalations from the human body, during sickness or close confinement, which acts as a predisposing cause. The exciting causes are vicissitudes of climate, errors in diet, mental anxiety. and whatever tends to increase susceptibility of the system, and induce that peculiar condition called the aplastic diathesis. When the disease occurs under these circumstances, and is confined to particular localities, it is said to be endemic.

The epidemic form may be produced by an electrical charge in the atmosphere, by which the vital powers of the inhabitants of cities and large territories are so depressed as to form a favorable medium by which the specific agent readily diffuses itself through wide districts; and all those who are affected by the predisposing cause, are easily brought under the control of the exciting cause, and are prostrated by the fever.

The morbific agent, whatever it may be, does not affect or produce zymosis in the plastic system; and the individual must first be brought under the epidemic influence, or his condition changed, before he is liable to an attack of typhoid fever.

If, in certain geographical districts, the atmosphere becomes damp and heavy, with thick fogs remaining during the greater part of the day, and continues for several days together, typhoid fever will be the prevailing disease, and will give all the evidence of an epidemic.

This disease is thought to be most prevalent in autumn and winter. If it prevails in malarial districts, during the latter part of summer or early autumn, it is liable to put on a typho-malarial type.

It appears that no age or sex is exempt from typhoid fever. From the investigations of Louis, it is found to be more frequent in those from twenty to twenty-five years of age. But it frequently occurs in children, at the age of eight and nine years.

There are many persons who believe this disease to be contagious, but some of the ablest practitioners of Europe and America discard the theory. There is no doubt that the idea originated from the fact that it is sometimes difficult to draw the line of distinction between typhus and an epidemic of typhoid fever.

There is no positive evidence that typhoid fever is contagious. It was so considered by the older authors, but it was because they were unable to draw the line of distinction between typhoid and typhus. Since the days of Louis, the distinguishing characteristics have been made plain. The fact of several members of the same family having typhoid fever, is no evidence of its being contagious. Neither is the fact of persons visiting the patient from a healthy locality, and then returning home to have the disease, an evidence of their having contracted it by contagion—unless we call all causes of disease contagion. It simply proves that they remained long enough under the influence of the local cause to change their diathesis, and place them in that condition which is susceptible of endemic diseases.

Then again, the care and anxiety manifested by the family for the sick member, loss of sleep, bad ventilation of his room, and the constant breathing of the exhalations from the patient, are predisposing causes; and any person being kept in that condition for any length of time, must evidently take the fever, or undergo a pathological change of a typhoid character.

But if the patient is kept clean, and his chamber thoroughly ventilated night and day, there is no danger of any one contracting the disease by visiting him. For the system must first be brought under the control of the same endemic or epidemic influence, before it can be attacked by the same form of disease.

But, on the other hand, contagion is liable to attack any person, with the smallest amount of exposure. There is then a wide difference between the virus of contagion and the agent of endemic and epidemic diseases. And until we are able to make this distinction, we are liable to commit an error in regard to the contagiousness and non-contagiousness of certain diseases.

Morbid Anatomy.—The almost constant pathological peculiarity of typhoid fever is to be found in the ilium, as the result of the fever poison.

An irritation and congestion are set up in the glands of Peyer, which give them a thickened or enlarged appearance; and as the system is fully brought under the influence of the idiopathic fever, inflammation sets in; disintegration takes place; the glands become softened, and easily break down; the follicular structure is lost; and ulcers of varying size and color are the result.

These ulcers have a tendency to heal even where perforation has taken place, and under appropriate treatment, do frequently heal, and the patient recovers. This fact has been proved by *post mortems*, where patients have died of some other disease, many years after an attack of typhoid fever.

It would be natural to suppose that, from the general effects of the blood poison, and the long continuance of the disease, the various organs and tissues of the body would undergo a pathological change before death: this we find to be the case. The liver, spleen, and mesenteric glands are found softened and

enlarged; the kidneys are in a morbid condition; the pharynx, œsophagus, bronchi, lungs, stomach, and heart are more or less changed in color and structure.

DIAGNOSIS.

The diagnosis of this disease is sometimes difficult, owing to the fact that many of its symptoms are similar to those of other idiopathic fevers, and simulate those of local disease and morbid states. There are, however, some differential symptoms which serve and direct us to a correct conclusion.

The watery evacuations and tympanitic bowels; tenderness over the iliæ region, with a gurgling sound; the thin, dirty white fur on the tongue, which after a few days becomes brown; the rose-colored rash on the abdomen; complete loss of appetite; the peculiar dulness of mind, and apathetic or dejected expression of countenance; and enlargement of the spleen are all diagnostic symptoms of typhoid fever, when taken in connection with the history of the case. The latter symptom is supposed to be pathognomonic, if it can be shown that the spleen was not enlarged previous to the attack then under consideration.

The diseases and conditions most likely to confuse the physician are the following:—

Typhus fever,	Enteritis,	Typhoid condition,
Remittent "	Gastritis,	General Debility.
Meningitis,		

TYPHUS.—The differential diagnosis of typhoid and typhus fevers may be summed up as follows:

TYPHOID.	TYPHUS.
1. Forming stage from one to ten days.	1. Forming stage from one to three days.
2. Diarrhœa.	2. Constipation.
3. Susceptibility to the action of purgatives.	3. No tendency to diarrhœa, or excessive purgation from purgatives.
4. Countenance pale, or of a reddish tint.	4. Countenance of a dusky hue.

5. Abdomen tympanitic, with tenderness, and a gurgling sound upon pressure in the right iliac region.	5. Abdomen flat; and if there is tenderness, it is general, and not confined to the right iliac.
6. Coffee-ground stools.	6. Dark, offensive stools, but not watery.
7. Hemorrhage from the bowels frequent.	7. Hemorrhage from the bowels seldom.
8. Rose-colored eruption—disappear upon pressure.	8. Petæica of a livid hue and but little affected by pressure.
9. Ulceration of the ilium is a constant pathological peculiarity.	9. No constant pathological peculiarity.

Remittent Fever.—This fever may sometimes baffle us in our diagnosis, unless we are on our guard. But if we remember that periodical fevers come on abruptly, and with great severity, and that typhoid fever begins slowly, and gradually increases in severity, and is always accompanied with diarrhœa, or a predisposition to it, we need not have any doubts as to the character of the affection.

And then, again, there is a decided remission and exacerbation in intermittent fevers; sometime during the twenty-four hours; whereas in typhoid the fever is continuous, except in that variety which we have designated as typho-malarial, in which there seems to be a blending of the symptoms of the two. But generally, if we have a correct knowledge of the clinical history and symptoms of these diseases, the careful observer need not make any mistake.

Meningitis.—The symptoms of the typho-cerebral type of typhoid fever and meningitis may be mistaken for each other, unless the practitioner is familiar with the characteristics of the two affections. But the suddenness of the attack; the flushed face; the quick, full, and bounding pulse; throbbing of the carotid and temporal arteries; the sharp pain in the head, with convulsive movements; the injected eyes, and constipation of the bowels all distinguish the latter from the former.

Enteritis.—This disease may be distinguished from typhoid fever by remembering that in the former, the inflammation of the intestines is the primary disease, and precedes the fever, and the inflammatory action is more extensive over the abdomen; the pain and tenderness is more acute and constant in the early stage; and the bowels are costive. While in the latter, the fever is primary, and the morbid condition of Peyer's glands is secondary; and the tenderness and pain are local, and confined to the ileo-cæcal region; and the bowels are loose from the beginning.

In enteritis, there is but little prostration, until the disease has progressed for some time, or passed into the typhoid state. The spleen is normal; and there is no mental wandering, no rose-colored spots on the abdomen, nor sudamina on the body: while in typhoid fever the reverse is true.

Gastritis.—Unless the physician is on his guard, a dangerous form of typhoid fever may escape his observation, or be obscured by gastric derangement, and the patient may be lost before he is aware of the nature of the malady.

Functional derangements of the stomach are not accompanied with febrile excitement. But gastritis and typho-gastric are followed and preceded by fever. In the former, the fever follows as a result of the inflammatory process set up in the stomach, pain and tenderness being the first symptoms manifest to the patient; and after a longer or a shorter period, the fever is developed. In the latter, the fever is the primary symptom, and the gastric disturbance is secondary.

Nausea may be one of the earliest symptoms in the forming stage of typhoid fever; but tenderness and excessive vomiting are not experienced until the fever and temperature begin to rise.

Gastritis may generally be traced to some error in diet, or the act of swallowing some irritating substances: whereas, the history of the case, its gradual approach, with all the phenomena that accompany continued fevers, will point unerringly to typho-gastric.

General Debility simulates typhoid fever in its prostration of

the organic functions, but the pathognomonic symptoms of the latter are wanting in the former; and by gaining a correct history of the case, and tracing the debility to its source, there need be no error committed in diagnosis.

Typhoid Condition.—It has ever been a source of annoyance to the young practitioner to trace the boundaries which separate typhoid fever from a typhoid condition. But if the distinction be firmly fixed in the mind that the former is a primary disease, and that the latter is a secondary morbid state, there need be no difficulty on this point. A typhoid condition may supervene an attack of any disease; therefore, our first duty is to trace the case to its origin, weigh every symptom and see whether they belong to a primary disease or a secondary state. If the clinical history and symptoms of the case point to the former, then what is the character of the affection? is it a general or local trouble? This question can only be satisfactorily settled in proportion to our knowledge of the symptoms and peculiarity of those diseases, and our capability of weighing and sifting testimony.

As we take our seat by the bedside of the patient, the question often arises whether it is a case of typhoid fever, or is it a typhoid condition? If, in tracing the history of the affection, we find the symptoms and peculiarities of the former present, then we know that the case is one of typhoid fever. But if, on the other hand, the historical and most prominent symptoms of that disease are wanting, we infer that the morbid change is one of a typhoid condition, and is the result of some other malady, which must be diagnosed in accordance with the primary symptoms.

Prognosis.—The prognosis of this disease is generally favorable; a large majority of the cases recover with proper sanitary regulations. Yet it should be guarded against; for there is no case so favorable that it may not disappoint us. In the midst of convalescence, when all the symptoms point to a speedy recovery, some untoward occurrence often takes place, and the patient sinks in a few hours.

The unfavorable symptoms are an increased frequency and

feebleness of the pulse, a comatose condition of the patient, involuntary discharges, subsultus, contraction of the muscles around the mouth and nose, picking at the bed clothes or imaginary objects, slipping down in the bed, and a cold, clammy sweat; all point to a speedy dissolution of the patient.

The indications of a favorable issue and a speedy convalescence are, a diminution in the frequency of the pulse, a gradual fall in the morning and evening temperature, the skin becomes cooler, consciousness returns, the tongue begins to clean from the tip and edges, the secretions return to their normal condition, the tympanitic abdomen begins to subside, and there is a returning relish for food.

TREATMENT.

The treatment of typhoid fever has been, and is still, a subject of discussion. The four methods of treatment, or the therapeutics advocated by some of the older writers and physicians, and many of the present day, are venesection, brandy, emetics, and cathartics.

A moment's reflection will suffice to discard them all. And first, by bleeding, we draw off the very materials which we most need to sustain the patient, to build up the tissues, and to carry him safely through the future progress of the disease. Furthermore, it has been demonstrated that we cannot shorten the progress of the disease by venesection, but rather prolong the cure. I do not deny that bleeding has done good in typhoid fever of the sthenic grade, by checking the flow of blood to the parts, and thereby preventing or arresting inflammatory action. But I should not like to risk the prostrating effects of venesection, when we have a sure sedative in the veratrum viride and gelseminum; and especially as they do not exhaust the elementary properties of the tissues like bleeding.

There are many persons who advocate strongly the use of brandy or alcoholic stimulants, in typhoid and typhus fevers. But we have only to compare the pathological condition of the blood and vital forces in those diseases, and the physiological effects of alcohol, to show the impropriety of its use in those fevers.

Experimenters are agreed that the blood, in typhoid and typhus fevers, is imperfectly decarbonized; the fibrin is impaired in its coagulability; the functions of the nervous and muscular tissues are greatly depressed; susceptibility is increased; vital affinity is diminished; and the plasticity of the blood in a measure destroyed. Alcohol, while in the human system, diminishes the decarbonization of the blood; it retards the coagulability of the fibrin, produces an anæsthetic or depressing effect on the nervous centers, and diminishes organic changes (Davis).

The first or temporary effect of alcohol on the system is that of an arterial stimulant, and its secondary effect is that of a powerful sedative. All investigators agree that alcohol is not digested, when taken into the stomach, and cannot therefore act as food, but passes through the circulation, and is thrown out of the system as a foreign substance; not, however, until after it has left its fearful inroads upon the tissues and organic functions.

With this view of the subject, I discard almost entirely the use of alcoholic liquors in my practice, especially in low forms of disease; and I have never yet found occasion to regret it.

In a lecture of W. T. Gairdner, Professor in the University of Glasgow, he said that he did not object to the moderate use of alcoholic liquors in certain stages of typhoid and typhus fevers. But he condemned its indiscriminate use in such strong terms, and backed his opinion with such powerful reasons, as to convince any one that it is not only contraindicated, but that it is positively injurious in almost every stage. I quote from Braithwaite, Part 51, Page 22. He said:—

"To give wine, whiskey, or beef tea, while withholding milk, is simply, in my opinion, to destroy your patient; and the more wine or whiskey you give, while withholding milk, the more sure you will be to destroy your patient soon, because you are thereby superseding the natural appetite (or what remains of it) for a nourishing and wholesome diet, by a diet—if it can be so called—which so prisons the blood, and checks the secretions, and alters for the worse the whole tone of the nervous system, and of the digestion and assimilation. I believe that infinite

mischief has been done in typhus fever, and in all fevers, by giving wine, and withholding or not giving milk." And further along he remarks that "You must absolutely make up your mind to feed your patient naturally, and not to stimulate him."

Emetics and cathartics have their advocates in typhoid fever. The former sometimes do good by unloading the stomach of undigested food, or accumulating and irritating fluids. And they may do good by arousing the secreting organs to action, by the muscular contraction produced in the act of vomiting. But, upon the whole, they are uncalled for, from the fact that the appetite is impaired from the beginning of the disease, and by the time that the physician is called, the stomach contains but little food.

Cathartics should only be mentioned, to be condemned; and they have justly passed under the condemnation of all intelligent practitioners. One free catharsis may prolong the disease from one to two weeks, or it may kill the patient. I learned this lesson by sad experience. The first case of typhoid fever that I lost, occurred under the following circumstances: I had been closely watching the patient for ten days or more, to arrest the diarrhœa. I succeeded in checking it, and the patient seemed to be convalescing. The pulse was nearly normal, the temperature came down rapidly, and the patient had some relish for food. The friends became anxious about the bowels, and desired the patient to have a stool. I put them off by telling them that I would order an injection when it became necessary. But they were not satisfied; and at the end of thirty-six hours after the diarrhœa had been checked, they prevailed upon me to give her a dose of castor oil. After six hours, the oil operated mildly; in one hour more she went to stool again, and had a copious evacuation, containing fœtid blood. The motions became so frequent, thin, watery, and bloody, that I was sent for, fifteen hours after the oil had been taken (she lived six miles in the country, consequently I visited her but once a day). When I reached her bedside, I found her cold to the knees and elbows—the pulse was so quick that it could not be counted. She died, not directly of typhoid fever, but of catharsis, and

that, too, within twenty-four hours after the administration of the oil. A befitting epitaph would have been,—"Died by one table spoonful of castor oil."

It may be said that the fœtid blood was accumulating, and would have burst forth sooner or later. That may be true, but I am satisfied that a table spoonful of castor oil broke away the checks which I had placed upon the disease, and carried my patient into eternity. I would therefore urge upon the practitioner to be careful how he gives cathartics, in the typho-enteric variety of typhoid fever. If, however, we fear that there is any irritating matter in the stomach and bowels, at the beginning of our treatment, it will be well to give a mild laxative or an enema, followed, after its operation, by opium, so as to prevent excessive purgation.

One of the most important items to be observed in the treatment of typhoid fever, is the proper regulation and promotion of the hygienic agents, *viz.:* air, aliment, excretions, sleep, cleanliness, and affections of the mind.

Without pure air and a free ventilation, our best efforts in medication will prove abortive. In typhoid fever, the patient's apartment should be ventilated both night and day. It is not only necessary to have windows let down from the top, but a free draught of air should constantly be made to pass through the room, night and day, so as to carry out all the exhalations from the patient. It is not necessary that the draught should blow directly on the patient, nor is it always safe, except in warm weather; then the patient may not only lie in the draught, between two doors or windows with impunity, but with benefit. But if the weather be damp or cold, it will be best to screen the patient from the direct influence of the air, and kindle a little fire in his chamber.

Cleanliness is another important consideration in the treatment of typhoid fever. When the patient is feverish, and the skin is dry, his body should be sponged once a day, or oftener, with cold water, containing chlorate of potash; and the linen of his person and bedding should be changed every day. The excrements should be immediately removed from the room, and

the apartment purified, in addition to free ventilation, by some antiseptic. In a word, the patient's bed chamber should, if possible, smell as fresh and pleasent as a drawing-room. Only in this way can we hope for a quick and favorable action of our medicines, and a speedy convalescence of our patient.

The diet of a patient with typhoid fever is a subject of the highest importance, both in its character, mode of preparation, and its use. It must be nutritious, small in quantity, and unirritating in quality. In all the varieties of this disease, the milk porridge is the best diet that can be given. It is nutritious, pleasant, and agreeable to the stomach. Rice boiled in milk is palatable and easy of digestion; but where we require an organic stimulant as well as nourishment, there is nothing equal to beef-essence, well salted. We get a large amount of nutriment in a small bulk of material. The best way to prepare the essence is to chop fine a piece of fresh tenderloin of beef, freed from fat, salt, and put into a bottle without water, cork loosely, set into a kettle of water so that the mouth is not covered, and boil until the beef is cooked tender. The fluid, as it collects in the bottle, should be poured off into some suitable receptacle, from time to time, so as to prevent the evaporation, during the process of preparation.

As convalescence progresses, soft boiled eggs may be allowed in moderation, but the patient's return to solid food must be gradual, and with great care.

The excretions, sleep, and affections of the mind, which are under the control of physiological laws and the will, and which are so conducive to health, are so morbidly affected in this disease, that the patient loses his power of regulating them; and the secretory, excretory, and nerve functions are so perverted, that remedial agents are necessary to assist nature in restoring the organs to their normal action.

The indications for treatment in this disease are: 1. To lessen febrile excitement and allay morbid heat. 2. Promote the excretions. 3. Antidote or neutralize the fever poison, and eliminate the effete matter from the system. 4. Overcome morbid susceptibility and irritability. 5. Arrest and heal local

lesion. 6. Increase the vital affinity and tonicity of the system.

The first indications may be fulfilled by fresh air, cold sponging, and sedatives, the best of which are veratrum viride and gelseminum. Secondly, the secretions are more readily promoted by alterative doses of calomel and Dover's powder. Thirdly, the best antidotes for the poison are the sulphite of lime and soda, chlorate of potash, and muriated tincture of iron. The effete materials may be eliminated through the kidneys, skin, and lungs, by diuresis, diaphoresis, and whatever promotes a free ingress of pure air into the lungs. The lung tissue absorbs the oxygen of the air, and imparts it to the blood, which in turn gives off its carbon and other impurities, and at each act of expiration, they are thrown out of the system, Fourthly, increased susceptibility and irritability may be overcome by nervous sedatives and anodynes, of which, some of the preparations of opium and chloroform are the best. Fifthly, to correct local inflammation and ulceration, we use anodynes, alteratives, local stimulants, and astringents. Sixthly, vital affinity and tonicity of the system are to be promoted by tonics and organic stimulants.

Having noticed the general principles to be observed in the treatment of typhoid fever, I now propose to take up the special treatment of its varieties, in the same order that I discussed their symptomotology.

Treatment of Simple Typhoid Fever.—First then, the treatment of simple typhoid fever must be adopted in accordance with the severity of its symptoms. If it is of the sthenic grade, we may begin by giving the following sedative mixture:

℞. Etherus spiritus nitrici, ---------- ℥iss.
Opii tinctura camphorata, ---------- ℥ss.
Tinct. veratri viridis, ---------- ℥ss.

Mix, and give a teaspoonful every four hours, until the fever abates. As an alterative, give one grain of calomel and five grains of Dover's powder three times a day. We continue this treatment until the secretions are promoted, and the skin becomes cool and moist. Calomel should never be given so as to affect the mouth, in typhoid fever; therefore, as soon as the

tongue becomes moist, and the secretions are established, dispense with it. Then put the patient on the use of thirty grains of sulphite of lime or soda, and one-sixth of a grain of sulphate of morphine, three times a day. If the bowels are very loose, it will be best to use the lime, but if they are not, the soda may be given.

While the head and body are hot and dry, sponge the former frequently with cold water, containing chlorate of potash, and the latter twice a day. His linen should be changed once a day, and, if the weather is warm, open the doors and windows, and leave them open night and day. If the weather is cold, cover the patient up warm, keep fire in the room, and ventilate it freely.

If the bowels become costive, a table spoonful of castor oil may be given, containing ten drops each of spirits of turpentine and laudanum. Directions should always be given to have the bowels checked after the first stool, by opium or otherwise, for running of the bowels may convert the simple type of fever into the typho-enteric, and thereby increase the danger of the patient.

The drinks of the patient should be cold. Ice or ice-water, lemonade, and the effervescing draught are refreshing, and may be taken *ad libitum.* The latter is especially beneficial, if there is nausea, and the skin is hot and dry.

Asthenic Grade.—If the pulse is quick and feeble, with a general depression, we do not give the sedative mixture, but we give the spirit mindereri, and the alterative. We continue the calomel and Dover's powder, as before, until the secretions are established. We then discontinue the alterative, and give the one-sixth of a grain of morphine, and ten grains of chlorate of potash, three times a day, alternated with thirty grains of the sulphites.

Diet, &c.—In the treatment of typhoid fever, there is probably nothing of more importance than the proper regulation of the patient's diet, and a free ventilation of the sick chamber. The patient must be sustained by nourishment and tonics, in order to enable the constitution to combat the ravages of the disease. Animal broths, well salted, and milk are to be used

freely. Milk porridge is the very best diet that can be given in this and all other low forms of fever.

As tonics, the mineral acids, tincture of prickly ash, and quinine in small doses, are the best. The utmost care must be taken both as to exercise, and a return to solid food. Many persons have passed through a long and tedious attack of typhoid fever, and finally brought on a relapse and died, from overloading the stomach with solid food.

Treatment of Typho-Enteric.—The treatment of this variety must be conducted upon the same general principles as that of simple typhoid fever, for the former is only a higher grade of the latter, or it has a more local character. Therefore our especial attention must be directed to the pathological condition of that portion of the ilium occupied by Peyer's patches. Our first effort should be to check ulceration of the intestines, and thereby prevent death by perforation. In order to accomplish this, we must arrest the morbid secretion and action of the bowels; for the constant passing of acrid secretions over the inflamed mucous membrane of the intestines, increases the inflammation, and hastens ulceration. By far the best agent now at our command is the turpentine emulsion, made as follows:

℞. Oleum, Terebinth, ---------- ℥ij.
Pulvis Acacia, } āā, ---------- ℥iij.
Sacchar. Alba, }
Aqua Mentha, ---------- ʒij.
Tinct. Opii, ---------- ℥ij.

Mix, and give a teaspoonful every two to four hours, until the bowels are checked; then lengthen out the dose to intervals of every six or eight hours, until tenderness has subsided. We give the turpentine emulsion in the early stage, not only to arrest the diarrhœa, but it is an invaluable remedy in the ulcerative stages of Peyer's glands. The turpentine penetrates the ulcerated surfaces, corrects the morbid action, stimulates the tissues, and sets up the healing process. The tincture of opium is beneficial in arresting the peristaltic movements of the bowels, and allaying morbid irritability and susceptibility of the parts; and by its power of arresting secretion it promotes resolution.

At the same time that our attention is directed to the bowels,

the general circulation must be watched; and if there is high arterial action, the sedative mixture, containing veratrum, must be given as before directed. But if the asthenic grade be present then the effervescing draught, or the spirit mindereri, should be given. And in either case, the alterative of calomel and Dover's powder must be given, until the tongue becomes moist, and the portal circulation is unlocked.

If the turpentine emulsion fails to check the ulcerative process, or disagrees with the patient, then, probably the next best agent that can be given is carbolic acid; from two to four drops may be administered in a teaspoonful of glycerine or olive oil, every four to six hours. I have no doubt that if we could apply carbolic acid directly to the ilium, it would arrest the ulcerative process immediately, and we would have but few if any more deaths from perforation of the intestines. It not only proves beneficial by its local effects, but when taken into the system, it acts as an antiseptic, and thereby counteracts the prostrating influence of the fever poison on the organic functions.

Owing to the idiosyncrasy, or whims of the patient, he cannot, or will not take our remedies; we must then substitute others in their place that may be more agreeable. I have found one or two grains of acetate of lead, and the sixth of a grain of morphine, given every four to six hours, to act promptly and with satisfactory results.

In this form of typhoid fever there is often a profuse and dangerous hemorrhage from the bowels, which, if not arrested speedily, may prove fatal in a few hours. An injection of half a drachm of Monsell's solution of persulphate of iron, in two ounces of water, is probably the most speedy remedy we have to check the morbid discharge. At the same time that we are using the enema, we may give the acetate of lead and opium by the mouth. If, after thirty-six hours, there has been no evacuation from the bowels, we must give an enema of half a pint of warm water, containing a table spoonful of salt. It will not be safe to give a cathartic, for that would start the bowels to running off again. In this form of the disease, where opium is so beneficial, and is required to be given so freely, the renal func-

tions must be closely watched; and if the urine is scanty, some diuretic must be given at such intervals as to promote its flow.

Treatment of Typho-Cerebral. — The treatment of typhoid fever of the cerebral type must be conducted on the same general plan that has been already indicated. But our attention must be early directed to the delirium or head symptoms; for without sleep the patient will die, and that speedily. I have found nothing so beneficial in controling the delirium, and promoting sleep, as the following:—

℞. Chloroform, ---------- ℥ij.
Pulvis Acacia, } āā, ---------- ℥iij.
Saccha Alba, }
T. Opii Deodor, ---------- ℥ij.
Bromide Potassa, ---------- ℥iv.
Aqua Mentha, ---------- ℥ij.

Mix, and give a teaspoonful every two hours, until he is quiet.

The alterative and sedative must be given with the same restrictions as in the other cases. If the head is hot, it may be frequently bathed with cold water. If the bowels do not move regularly, the enema of warm water and salt may be used from time to time.

Treatment of Typho-Gastric.—The treatment of this type or complication requires a good deal of judgment, both as to the selection and use of remedies. Our first object must be to quiet the gastric irritation. To accomplish this, we give one grain of calomel, four grains of bicarbonate of soda, and one-sixth of a grain of morphine, every four hours, until the stomach is quiet. At the same time I give twenty grains of sulphite of soda, three or four times a day. I give this to arrest the fermentative process set up in the stomach by the typhoid poison.

If the above fails to correct the gastric disturbance in a reasonable time, we may combine two grains of acetate of lead, with the morphine, and leave out the calomel and bicarbonate of soda.

If the gastric irritation is not soon removed by the foregoing plan of treatment, or if the medicine is rejected by the stomach, then we may use the hypodermic injection, of the one-twelfth to the one-fourth of a grain of morphine; or we may blister the

epigastric region, and sprinkle the denuded surface with morphine.

The diet should only consist of a few spoonfuls of milk porridge or ice cream. If the stomach is very irritable, it would probably be better not to give anything by the mouth except the medicines; and allow the patient to swallow small pieces of ice, if he is thirsty. It will be better to nourish the system by means of beef essence. One or two ounces may be thrown into the rectum, every four to six hours, and if it does not readily stay by the patient, a few drops of laudanum may be added to each dose.

A great deal of care is to be taken during convalescence; for there are probably more relapses in this variety than any of the others. Therefore, the patient should be restricted to a nutritious but unirritating diet, for a long time, until the digestive organs regain their tone.

Treatment of Typhoid-Pneumonia.—The treatment of this complication differs only from that of simple typhoid, in our efforts to overcome the pathological condition of the lungs. In order to meet this indication, we may give the following powders:—

℞. Hydrarg Chlor. Mite., ---------- gr. v.
Pulvis Opii, ---------- gr. v.
Sanguinaria, ---------- gr. iij.

M. Fiant, chart vi. Give one every four hours, alternated with the following sedative cough mixture:—

℞. Syr. Scillæ Comp., ---------- ℥j.
Tinct. Sanguinaria, ---------- ℥j.
Camph. Tinct. Opii,---------- ℥j.
Tinct. Veratrum Viride, ---------- ℥j.

Mix, and give a teaspoonful every four hours, until the fever abates, and the cough becomes loose. If the pulse is slow and feeble, we must leave out the veratrum, and continue the expectorant. The powders may be continued for twenty-four hours, or dispensed with sooner, if the tongue becomes moist. If the pain and breathing are troublesome, we may cup or leech the affected side, and cover the chest with raw onions, reduced to a pulp. This is by far the best external application that I have

ever seen used in pneumonia—especially in children. I am not prepared to say what the physiological effects of onions are, or how they act therapeutically, but from my observation of their speedy action, I am inclined to believe that their oil contains anodyne, antispasmodic, and expectorant properties. For in a few hours after the application of raw onions to the chest, pain is often relieved; the quick and laborious breathing gives place to a quiet and refreshing sleep, and expectoration becomes easy.

If the patient is not better at the end of forty-eight hours, it may be well to apply a blister over the inflamed lung. Some have been deterred from the use of blisters, in this disease; but clinical experience has shown that there is but little trouble to be apprehended from their use, in this affection. I am, however, not a strong advocate for blisters; but, nevertheless I have seen some happy effects from their application.

If the fever assumes a low grade, with congestion of the capillaries, and a blueish tinge of the lips, we must then leave out the veratrum viride, continue the expectorant, and give the following as an organic stimulant, and to decarbonize the blood:—

℞. Potass Chloras, ---------- ℥ijss.
Acacia, Saccha Alba, } āā, ---------- ℥iij.
Aqua Mentha, ---------- ℥iij.
Chloroform, ---------- ℥ij.

Mix, and give a teaspoonful every one, two, or four hours, owing to the urgency of the symptoms.

The chlorate of potash proves beneficial, by increasing the oxygen of the system, and thereby acts as an organic stimulant, arousing the organic functions to a healthy action. It is one of the best oxygenators of the blood that we have; and it should always be given in low forms of disease, where carbon is in excess in the system. Chloroform has a similar action, but it is more especially useful in quieting nervous irritation, allaying pain, and inducing sleep.

If the bowels should become moderately bound, and the tongue is dry and brown, two grains of calomel and five grains of Dover's powder may be given at bedtime, followed in the

morning with one tablespoonful of castor oil, containing ten drops each of laudanum and spirits of turpentine. Purgation must be moderate, and the bowels closely watched, as in the other varieties.

If the fever be remittent, as is sometimes the case, two grains of quinine, and one grain each of opium and blood-root, given every four hours, will be the best treatment that can be adopted.

After the inflammation of the lungs has been arrested, and the patient begins to expectorate, we may discontinue the former expectorant, and give a tablespoonful, three or four times a day, of the infusion of half an ounce each of senega and asclepias tuberosa, to a pint of hot water.

The diet and tonics must be given during convalescence, as directed in simple typhoid.

Treatment of Typho-Malarial Fever.—Typhoid fever of a malarial type is sometimes a most difficult disease to treat, owing to the variable character of its symptoms. At one visit we find our patient sweating profusely, with symptoms pointing to a remittent fever; when we examine the pulse, we generally find it ranging from 120 to 140 per minute; and at our next visit we find all the indications of a continued fever. The diarrhœa, tympanitic bowels, dry skin, and hebetude of mind is an evidence that a typhoid poison is at work in the system. So the conflict seems to be between the morbific agent of typhoid fever on the one hand, and marsh malaria on the other, as to which shall gain complete possession of the system. For this reason, the case is somewhat troublesome to manage. If we treat it simply as a case of typhoid fever, we will certainly fail to cure the patient, or the disease will be greatly prolonged. For antiperiodics are to a certain extent demanded. And then, again, if we treat it as a case of remittent fever, with full doses of antiperiodics, it may be hazardous to our patient. We must, therefore, make a compromise, and select our treatment with some modification from that which is separately recommended for each disease.

As the gastric and portal systems are deranged, in this disease, our first object will be to correct them; and in order to

accomplish this, we may give one grain of calomel, and four grains of Dover's powder, every four to six hours, until the tongue becomes moist, or gives evidence that the portal system is unlocked. If the stomach rejects the Dover's powder, we may substitute the one-sixth of a grain of morphine, for each dose.

After the secretions shall have been promoted, and the copious sweating comes on, we then discontinue the alterative, and give two grains of quinine, ten grains of chlorate of potash, and the eighth of a grain of morphine, every six hours, alternated with twenty grains of the sulphite of soda. Experience has demonstrated the fact that the latter is as efficacious in intermittent and remittent fevers, as it is in the aplastic diathesis. Therefore, the sulphites are eminently successful in typho-malarial fever.

Hiccough, which is so troublesome in this form of typhoid fever, is best treated with twenty drops of chloroform, and twenty grains of bromide of potash, rubbed up in a tablespoonful of syrup of acacia, and given at such intervals as to arrest the trouble.

The same percautions as to ventilation, diet, and the regulation of the bowels, must be observed in this, as in the other varieties. The diarrhœa must be checked by the turpentine emulsion; and the delirium can be combated with the chloroform mixture, as before mentioned. For a tonic and anti-peri odic, I have found the following very useful, *viz.*:—

℞. Tinct. Cinchonia, ---------- ℥j.
Syr. Aurantii, ---------- ℥j.
Salicine, ---------- ℥j.
Arom. Sulph. Acid, ---------- ℥ij.

Mix, and give a teaspoonful at each meal-time, and at bedtime.

In the treatment of all the grades of typhoid fever, our object should be to prevent or heal lesions, antidote the fever poison, remove the effete matter from the system, and promote the normal secretions; and then withdraw all medication except tonics, and husband the patient's strength by nutritious diet, ventilation, and cleanliness.

Proceedings of Societies.

MEDICAL COLLEGE CONVENTION.

The Delegates from Medical Colleges assembled in the Lecture-room of the Georgetown Medical College, corner of 10th and E. Streets, Washington, D.C., on the morning of April 20th, 1870; and were called to order at 11½ oclock A.M., by Prof. N. S. Davis, of Chicago. Prof. S. D. Gross was elected temporary Chairman, and N. S. Davis Secretary.

On motion of Prof. S. M. Bemis, the Chair was requested to appoint a Committee of three to verify the credentials and make a list of members. The Chair appointed Professors S. M. Bemis, J. S. Moore, and A. Stille such Committee.

Prof. Bemis, in behalf of the Committee, reported the following list of Delegates, with the names of the Institutions they represent, *viz.:*—

Institutions Represented.	Names of Delegates.
N. O. School of Medicine,	Prof. Sam'l Logan.
Howard University of D.C.,	" Robert Reyburn.
" " "	" Silas L. Loomis.
University of South Carolina,	" A. N. Talley.
" " "	" John T. Darby.
Detroit Medical College,	" E. W. Jenks.
Missouri Medical College,	" J. S. Moore.
Chicago Medical College,	" N. S. Davis.
Med. Depart. Georgetown Col'ge,	" J. H. Thompson.
" " " "	" C. C. Cox.
Med. Depart. Williamette Uni'ty,	" Horace Carpenter.
University of Louisiana,	" S. M. Bemis.
Jefferson Medical College,	" S. D. Gross.
University of Pennsylvania,	" F. G. Smith.
" " "	" Alfred Stille.
St. Louis Medical College,	" J. B. Johnson.
Wash. University, Baltimore, Md.,	" Chas. W. Chancellor.
University of Louisville,	" David W. Yandell.

On motion, the report of the Committee was accepted. A motion was then adopted, requesting the Chairman to appoint a Committee of five to nominate permanent officers of the Convention; and Professors C. C. Cox, F. G. Smith, D. W. Yandell, Sam'l Logan, and N. S. Davis were appointed such Committee.

The Convention then took a recess of fifteen minutes, to allow the Committee time for consultation. When the Convention was again called to order, Prof. Cox, Chairman of Committee on Nomination, responded as follows: President, Prof. S. D. Gross, of the Jefferson Medical College, Philadelphia; Vice-President, Prof. David W. Yandell, of the University of Louisville, Ky.; Secretary, Prof. N. S. Davis, of the Chicago Medical College, Ill.

On motion, the report of the Committee was accepted, and the nominations unanimously confirmed. Prof. Gross cordially thanked the Convention for the honor conferred on him, and expressed a deep interest in the accomplishment of the objects for which the Convention had assembled.

The proceedings of the previous Convention, held in Cincinnati, May 3d, 1867, being called for, Prof. Davis, Chairman of the Committee appointed by that Convention, presented and read a report, stating fully the result of the deliberations of the previous Convention, and the subsequent action of the Colleges in relation thereto, as follows:—

The first attempt to procure concert of action in the work of improving the system of Medical College instruction in this country, by a Convention of Delegates from Colleges alone, was made on Monday, preceding the meeting of the American Medical Association, in Louisville, in May, 1859, and was followed by a similar meeting, the day preceding the assembling of the Association, in New Haven, in June, 1860. Less than a majority of the Medical Colleges in the country were represented in both of those meetings, and no attempt was made to effect any considerable changes in the methods of instruction. Circumstances beyond the control of the medical profession, prevented any further action in this direction, until the Ameri-

can Medical Association, during its session in Baltimore, in May, 1866, adopted a resolution, earnestly requesting the Medical Colleges of the whole country to hold a Convention of Delegates from their own faculties, and thoroughly revise our whole system of medical college instruction; and appointed a Committee to aid in carrying the resolution into effect. It was in response to a circular issued by that Committee that a Convention of Delegates from Medical Colleges assembled in Cincinnati, May 3d, 1867. Delegates were present from eighteen Medical Colleges, constituting little more that half the number then existing, and in active operation in the United States, and including several of the oldest and most influential character. Prof. A. Stille, of the University of Pennsylvania, presided, and Prof. G. C. E. Weber, of Charity Hospital Medical College, acted as Secretary. After three days spent in candid and full discussion of the whole subject, the following propositions were adopted by nearly an unanimous vote, namely:

(*See Circular Letter on next page.*)

Having thus agreed upon a thorough revision of our whole system of Medical College instruction, the Convention adopted the following resolution, *viz.:*

Resolved, That a Committee of five be appointed by the President, whose duty it shall be to present the several propositions adopted by the Convention to the Trustees and Faculties of all the Medical Colleges in this country, and solicit their definite action thereon, with a view to the early and simultaneous practical adoption of the same throughout the whole country. And that the same Committee be authorized to call another Convention, whenever deemed advisable.

In obedience to this resolution, the President appointed N. S. Davis, of Chicago; S. D. Gross, of Philadelphia; F. Donaldson, of Baltimore; Alden Marsh, of Albany; and Geo. C. Blackman, of Cincinnati, to constitute said Committee.

As soon after the adjournment of the Convention as practicable, the Committee, in obedience to the foregoing resolution, prepared the following circular letter, and sent copies of the same to the Trustees and Faculties of every regular Medical

College in the United States, the existence of which was known to the Committee at that time. The letter is as follows:

TO MEDICAL COLLEGES.

At the Convention of Delegates from Medical Colleges, called for the purpose of revising the system of Medical College instruction in this country, and which convened in Cincinnati, May 3d, 1870, the following resolution was unanimously adopted:—

"RESOLVED, That a committee of five be appointed by the President, whose duty it shall be to present the several propositions adopted by this Convention, to the Trustees and Faculties of all the Medical Colleges in this country, and solicit their definite action thereon, with a view to the early and simultaneous practical adoption of the same throughout the whole country. And that the same committee be authorized to call another convention whenever deemed advisable."

The undersigned Committee, appointed for the purpose of carrying into effect the instructions contained in the foregoing resolution, respectfully invite the attention of the Trustees and Faculty of ———— to the five following propositions, which, after mature deliberation, were adopted by the said Convention with entire unanimity:—

"RESOLVED, 1st. That every student applying for matriculation in a Medical College shall be required to show, either by satisfactory certificate, or by direct examination by a committee of the Faculty, that he possesses a knowledge of the common English branches of education, including the first series of mathematics, the elements of the natural sciences, and a sufficient knowledge of Latin and Greek to understand the technical terms of the profession: and that the certificate presented, or the result of the examination thus required, be regularly filed as a part of the records of each Medical College.

2d. That every medical student shall be required to study four full years, including three regular annual courses of Medical College instruction, before being admitted to an examination for the degree of Doctor of Medicine.

3d. That the minimum duration of a regular annual lecture term, or course of Medical College instruction, shall be six calendar months.

4th. That every Medical College shall embrace in its Curriculum the following branches, to be taught by not less than nine Professors, viz.:—Descriptive Anatomy, including dissections; Physioloy and Histology; Inorganic Chemistry; Materia Medica; Organic Chemistry and Toxicology; General Pathology, Therapeutics, Pathological Anatomy, and Public Hygiene; Surgical Anatomy and operations of Surgery; Medical Jurisprudence and Medical Ethics; Practice of Medicine; Practice of Surgery; Obstetrics, and Diseases

of Women and Children; Clinical Medicine and Clinical Surgery; and that these several branches shall be divided into three groups or series, corresponding with the three courses of Medical College instruction required.

The first, or Freshman series, shall embrace Descriptive Anatomy and Practical Dissections; Physiology and Histology; Inorganic Chemistry and Materia Medica. To these the attention of the student shall be mainly restricted during his first course of Medical College instruction, and in these he shall submit to a thorough examination by the proper members of the Faculty, at its close, and receive a certificate indicating the degree of his progress.

The second, or Junior series, shall embrace Organic Chemistry and Toxicology; General Pathology, Pathological Anatomy, Therapeutics, and Public Hygiene; Surgical Anatomy and operations of Surgery; Medical Jurisprudence and Medical Ethics. To these the attention of the medical student shall be directed during his second course of Medical College instruction, and in them he shall be examined at the close of his second course, in the same manner as after the first.

The third, or Senior series, shall embrace Practical Medicine; Practical Surgery; Obstetrics and Diseases peculiar to Women and Children; with Clinical Medicine and Clinical Surgery in a hospital. These shall occupy the attention of the student during his third course of College instruction, and at its close he shall be eligible to a general examination for the degree of Doctor of Medicine.

The instruction in the three series is to be given simultaneously, and to continue throughout the whole of each annual College term; each student attending the lectures on such branches as belong to his period of progress in study, in the same manner as the sophomore, junior and senior classes, each pursue their studies simultaneously throughout the Collegiate year in all our Literary Colleges.

5th. That every Medical College should immediately adopt some effectual method of ascertaining the actual attendance of students, upon its lectures and other exercises, and at the close of each session, or of the attendance of the subject, a certificate specifying the time and the courses of instruction actually attended, should be given, and such certificates only should be received by other Colleges as evidence of such attendance."

It will be seen that these propositions are designed to introduce into the system of Medical College instruction in this country, four changes of great practical importance, namely:—1st. A positive standard of preliminary education. 2d. A longer time in which to acquire a knowledge of the various branches of Medical Science and practice. 3d. A systematic and successive order of studies for the student. 4th. A certain amount of direct Clinical instruction in a public Hospital as a part of the senior course. The desirable-

ness of these changes is too apparent to require either argument or illustration. The plan for accomplishing them, adopted by the Convention, as expressed in the foregoing propositions, is simple and easy of execution, provided the several Colleges will act in concert.

It requires each College to obtain and place on record sufficient evidence that every student admitted to matriculation possesses a certain amount of preliminary education. It requires attendance and pay for three annual courses of College instruction, as a condition for graduation; and arranges the whole curriculum of the College into three corresponding series of branches, so that each student can limit his attention to one series each year, thereby laying a foundation and building on it a superstructure in their natural order.

It contemplates such an increase in the number of members of each College Faculty, that four lectures per day can be given to each of the three classes in attendance, throughout the whole College term of six months. This would afford a very full course of instruction in each of the three series of branches, and yet give to the members of each class time fully to digest the instruction received. This would make it necessary during a part of each day that lectures should be given at the same hours to different classes. But as all Medical Colleges contain two, and some of them three Lecture rooms, this would be attended by no inconvenience to the Faculty or students. The only valid objection which has been suggested by those connected with the Medical Colleges is, that the increase in the number of each College Faculty required by the proposed plan, would necessitate a corresponding greater division in the income of each College, and thereby seriously reduce the amount received by any one member. If it is remembered, however, that while the plan requires a moderate addition to the number of members in the Faculties of most of the Colleges, it also requires each student to attend and pay full fees for three courses of instruction instead of two, it will be seen that the revenues of each College derived from Lecture fees, will be increased in full proportion to the increase of the Faculty. As most of the Colleges have allowed each member of the Faculty to sell his ticket to the class and retain the proceeds as his individual compensation, it has been thought that the proposed division of the students, attending any given College, into three distinct classes, and assigning to each a distinct

series of branches, would limit the sale of the tickets of any one Professor to the special class receiving instruction in his department; and consequently would restrict his income in proportion to the restricted number of tickets sold.

This is simply a misapprehension. The Convention took no action regarding the rate of lecture fees in any of the Colleges; but the plan proposed was founded on the expectation that each student would pay the same aggregate fees annually, as under the old plan. For instance, a student attending the first course, and taking out the four tickets of the Freshmen series, would pay the same amount for the four that he now pays for the seven or eight that cover the curriculum in most of the Colleges at this time. Hence, although each member of the Faculty would sell a smaller number of tickets, the income from them would be nearly the same. Or each College could have all lectures free, from the several divisions of the class, paid to a common treasurer, and each member of the Faculty allowed to draw on such treasurer for his proportion of the same.

The fourth section or proposition adopted by the Convention was not designed to fix the titles to Professorships in the Colleges, but simply to designate what was deemed necessary to constitute a proper Medical College Curriculum, and to determine what part of the Curriculum should be included in each of the three series of studies. Uniformity among the Colleges in regard to this division into series, is very desirable, in order to enable students, if they choose, to attend one series of studies in one College and another series in another, without confusion.

To obviate embarrassment in making the change from the present system of College instruction to the one proposed, we would suggest that all students who should have so nearly completed their period of study at the time fixed for making the change, than an attendance on a single additional course of Lectures would render them eligible to graduation, should be allowed to complete their course by attending the senior department under the new arrangement; while all who are in the first half of their period of study, should be subject to the new arrangement in full.

That the interests of medical science, the honor of the profession, and the welfare of the people, urgently require important improvements in our system of medical education and Medical College instruction, is apparent to all. The public sentiment of the profession, as expressed through the National, State, and local Societies,

and through the leading medical periodicals, cordially sanctions the plan here proposed. We, therefore, respectfully ask you to give it a full consideration, and return to the Chairman of the undersigned committee answers to the following questions:—

1st. Do your Faculty, together with the governing authority of your College, approve of the several propositions as a whole?

2d. If you do not approve of the plan of revision as a whole, what changes would you suggest?

3d. If you approve of the plan as a whole, or of all its essential features, will your College be ready to adopt it practically, and issue your annual announcement for the College term of 1868–9, in accordance therewith; provided all the principal Medical Colleges in this country (or, at least, those in the cities of Boston, New York, Philadelphia, Baltimore, Richmond, Charleston, New Orleans, Louisville, Cincinnati, St. Louis, Chicago, Buffalo, and Albany) will agree to do the same at the same time?

The great desideratum is to secure both harmony and concert of action on the part of the Medical Colleges, in the adoption of such measures as will at once place the system of medical education in this country on such a basis as the extent of the science and the responsibilities of its practical application in the prevention and treatment of diseases require.

N. S. Davis,
S. D. Gross,
Geo. C. Blackman,
F. Donaldson,
} Committee.

Chicago, August 1, 1867.

To remedy the effects of having accidently omitted any Schools, the same letter was published in most of the medical periodicals at the same time. To the circular letter thus addressed and its plain questions, official answers were received from the Faculties of only ten Medical Colleges, while the number then in active operation was over thirty.

The ten replies mentioned were from the Medical Department of Harvard University; the Medical Department of Yale College; the Jefferson Medical College; Medical Department University of Michigan; Miami Medical College, Cincinnati; Medical College of the State of South Carolina, Charleston; Humboldt Medical College, St. Louis; Talland Medical Col-

lege, San Francisco; Med. Depart. of Williamette University, Salem, Oregon; and the Chicago Medical College, now Medical Depart. of the North-Western University. As none of these replies are lengthy, we submit them in full, in the order mentioned.

BOSTON, *Sept. 23, 1867.*

MY DEAR SIR:—The circular to Medical Colleges, addressed by the Committee, was received and submitted to the Faculty. It was discussed pretty freely, but as the propositions cannot be adopted and carried out now as a whole, it was voted to postpone the further consideration of the subject. With regard, truly yours, GEO. C. SHATTUCK.

MEDICAL INSTITUTION OF YALE COLLEGE.
NEW HAVEN, *April 6, 1868.*

N. S. DAVIS, M.D., *Chairman of Committee of Med. Teachers' Convention.*

Dear Sir:—The circular issued by your Committee, presenting to the Faculty of the College the several propositions adopted by the Convention of Medical Teachers held last year, and soliciting definite action thereon, to the end that they may be simultaneously and practically adopted throughout the whole country, has been fully considered by the Faculty; and the undersigned have been directed to transmit to your Committee the following reply:

In doing so, however, we cannot neglect this opportunity of expressing, both for our colleagues and ourselves, our active sympathy with every well-considered movement, having for its object the improvement of the profession; and particularly the elevation of the standard of education, both general and professional, which is necessary to secure admission to its ranks; and our high appreciation of the efforts of the gentlemen engaged in the recently renewed attempt to attain that object—for it is a work that this College, ever since its formation, has been actually engaged in. The relations which this Institution sustain to the Connecticut Medical Society, by which it was originated, and to the State Legislature, by which it was chartered, and made one of the Departments of Yale College are such, that

any radical change in its plans of instruction cannot be suddenly or easily effected. This is not the first occasion on which this College has been solicited to change entirely its *curriculum* of study, as well as the prerequisites for graduation.

More than forty years ago, as doubtless your Committee are aware, the Connecticut Medical Society sent representatives to a Convention of Delegates, from Medical Societies and Colleges, held at Northampton, pursuant to a call issued by the Medical Society of Vermont, for the purpose of devising plans for elevating the character of medical education.

After discussing the various subjects which had been suggested by the circular of the Vermont Society, and such as were proposed by members of the Convention, certain regulations (twelve in number) were adopted, together with by-laws and resolves, providing for making known to the several Medical Colleges and Societies of the United States the results of their deliberations,—offer their ratification of them.

As your Committee are doubtless familiar with the proceedings of the Convention, it is unnecessary to do more than to allude to the very clear and forcible presentation of the arguments by which their propositions were enforced, or to enter into a detailed statement of the changes proposed, further than to mention that "each candidate for a license to practice, or for the degree of Doctor of Medicine, was required to present satisfactory evidence that he had received from some respectable College the degree of Bachelor of Arts; or that *previous to the commencement* of his professional studies he had acquired a good English education; and such knowledge of the Latin language as to enable him to read with facility the Æneid of Virgil and the select Orations of Cicero; and that he had also obtained a good acquaintance with the principles of Geometry and Natural Philosophy." Such students as were regular graduates of Colleges, were required to study for *three* years, and attend two courses of public lectures—those who were not graduates of Colleges, were required to study *four* years.

The records of the Connecticut Medical Society show that it adopted unanimously the recommendations of the Convention;

and entering at once and heartily into the movement, to advance the standard of medical education, it procured, at some trouble, the necessary alterations of the laws of the State, and the charter of the Medical College, so as to conform them to the new system. The Faculty earnestly seconded these efforts, and their action was made to conform to the standard demanded by the Northampton Convention, in 1827.

The new system was faithfully pursued by this College for three consecutive years, and until it became evident that the solemn compact was no longer regarded by the other Medical Colleges represented in the Convention, or who had subsequently signed the agreement. One after another they refused to be bound by their own regulations, until finally this Institution, according to the traditions of the fathers, found itself standing alone—"faithful among the faithless,"—in the combined effort to advance the true interests of medical education in the United States.

Seeing that the students were attracted away to other institutions, which practically ignored the new regulations to which they had all pledged themselves, and finding that a longer perseverance in the extended course of instruction would not only injure the Institution, but would fail to be of any benefit to the cause of medical education, the Connecticut Medical Society, in 1832, voted "that the Committee on the term of study report to the General Assembly a bill, in due form, for a public Act, to alter the term of study, making the time required the same as by the law in force previous to the Convention, in 1827." The bill, as presented, became a law the same year, and the *term of study* in this Institution has remained until the present time unchanged.

In regard to the *third* question of the circular, then, we have decided to answer in the negative.

In reply to the *second* question, we are convinced that although the propositions of the Committee are in themselves unobjectionable, they are inadequate as a remedy for the great evils of the present system of education.

The great salient evils of this system are, in our opinion,

1st. The almost total absence of *adequate preparatory education* in the young men who enroll themselves as students of medicine.

2nd. The fact that the greater portion of these receive no instruction whatever worthy of the name, nor indeed accomplish *any systematic study*, in the proper sense of that term, *before* they listen to public lectures—if they ever do.

3rd. Too great prominence is already given to public lectures, and too little to *daily text-book recitations.*

And the student who comes fresh from the plough and the work-bench, with only the preparatory education which the district school affords, or the shrewdness acquired in some business pursuit, receives his degree after the same term of study as is required of the most thoroughly disciplined graduate of a University.

Such a palpably gross evil as this requires no comment. In order to remedy, so far as its influence could reach, the *first* evil enumerated, the Connecticut Medical Society, many years ago, resolved, in substance, that hereafter no young man should be received into the office of any of its members, as a student of medicine, until he had passed a satisfactory examination, by his instructor and a Fellow of the Society, in the leading branches of English education; also in the Greek and Latin languages—in effect, very nearly the examination that was then required for admission to the Freshman Class in Yale College. This was placing the standard so far above the demands of the public—of the other Medical Colleges, and even of the profession generally, that the law soon became imperative, and so continues, although we hope it will yet be revived.

Third.—The system of teaching medicine by daily text-book recitations and familiar lectures, through a large part of the year, which is in operation in Yale College, in addition to the course of public lectures and Hospital facilities, we believe to be the only proper one. No student should be graduated *anywhere*, unless his studies have been faithfully and systematically pursued, under circumstances that insure the full occupation of his time, to the exclusion of all other business, and under the

direction of a competent teacher. If a student thus educated can only be admitted to graduation after three years of constant application, *when* ought those to graduate, who read medicine as the majority do, without recitations of any kind, and with only nominal instruction?

It is not an extension of the lecture term to six months, nor yet a great multiplication of the subjects of study, that can diminish, much less remove the great evils that we all feel do exist. The only change that can reach them is the absolute requirement of greater preparatory knowledge; and the adoption of the mode of daily teaching in classes, in public institutions, instead of the loose and indefinite one that now so universally prevails in the offices of physicians.

As evidence, if any were needed, of our desire to advance as far as practicable, the standard of medical education, we will mention the fact already known to your Committee that we have it in contemplation, at no distant day, to perfect plans already in process of completion, by which the Medical Sciences will be taught here as the other Sciences are taught, to graded classes, by daily text-book recitations and lectures, throughout the Academic year. In a democratic country like ours, where educational interests are in no sense fostered or controlled by a central government, and where the quality of education, as of other things, is regulated by the public demands, the attempt to bring all Medical Colleges to adopt the same greatly advanced and prolonged course of study, and to compel all students to come up to that standard, *before the public mind is sufficiently educated to appreciate and demand it*, is in our judgment premature, and not likely to prove successful.

While for these and other reasons the Faculty deem it inexpedient to adopt at present the recommendations of the Con-Convention, they will be prepared to give them a favorable consideration, and to adopt them, so far as our circumstances will allow, *whenever they are adopted and faithfully adhered to as the uniform and settled practice of the leading Medical Colleges of this country.*

Appreciating fully your zeal and devotion in the cause of

medical education, which we ourselves have so much at heart, and hoping to see the day when our ideal in this regard may be realized, we are, with great respect and esteem, respectfully yours,

S. G. Hubbard, M.D.,
M. C. White, M.D., } *Committee of Faculty.*

St. Louis, Mo., *April 11th, 1868.*

N. S. Davis, M.D., *Chairman of Committee on Med. College Instruction.*

Sir:—At a meeting of the Faculty of the Humboldt Medical College, of this city, held on the 9th inst., the Secretary was requested to notify you of their approbation of, and their acquiescence in, the plan to change the system of Medical College instruction, and their readiness for its early practical adoption. However, they would suggest that in Resolution 2nd, *three* be substituted for *four*, as indicative of the number of years to be required for study; that in Resolution 4th, *medical ethics* be entirely dropped out; and further—they would reserve to themselves the privilege of adding whatever other branches they deemed expedient or necessary. Submitted by yours very respectfully, A. J. Steele, *Rec. Sec. pro tem.*

A. Hammer, M.D., *Prof. and Dean of the Faculty.*

San Francisco, *Oct. 16th, 1867.*

To N. S. Davis.

Dear Sir:—I am instructed by the Trustees and Faculty of the Toland Medical College to acknowledge the receipt of your circular, on the subject of medical education, and to inform you that they most heartily approve of the resolutions set forth, and hereby agree to adopt them, as soon as the same course is pursued by the Colleges named in your circular. Very respectfully and truly yours, Thomas Bennett, *Dean.*

Chicago Med. College, Chicago, *Oct., 1867.*

To. N. S. Davis, S. O. Gross, F. Donaldson, Geo. P. Blackman, *Committee.*

Messrs:—Your circular addressed to the Faculty of the

Chicago Medical College, embodying the action of the Convention of Delegates from Medical Colleges, as been received and presented to the Faculty and Trustees; and I am duly authorized to communicate to you in their behalf the following reply:

The Chicago Medical College, organized in 1859, adopted at the beginning the full *curriculum* recommended by the late Teachers' Convention; instituted thirteen professorships; made the regular annual college term—five calender months; and adopted the progressive method of instruction, by dividing the branches entering into the *curriculum* into two series—the junior and senior—requiring the students attending their first course to so far restrict their attention to the junior series as to bear a full and satisfactory examination in all of them, before they could advance in their next course to the senior series. The success attending this plan, and the manifest advantages to the student have caused the Faculty and Trustees not only to cordially sanction the plan proposed in your circular, but to adopt it, and carry it practically and fully into effect, at the session of 1868-9, whether it is adopted by other medical colleges or not. If they omit anything from the full plan recommended by the Convention, it will be the *fourth* year of study, and the Latin and Greek mentioned in the preliminary requirement. Assuring you that this Faculty will cordially co-operate in any concerted measures for elevating and systematizing the work of educating men for so responsible a profession as that of Medicine. I remain yours truly,

N. S. Davis, *Dean of Faculty of Chicago Med. College.*

Washington, *April 28, 1870.*

I am informed by a member of the Faculty of the Medical Department of Williamette University, at Salem, Oregon, that the communication of the Committee was received and acted upon by that Faculty, and a copy of such action sent to the Committee, but the same has not reached me. On his authority, I have included it among the Institutions fully approving the plan proposed by the Convention of 1867.

N. S. Davis.

PHILADELPHIA, *April 11, 1868.*

Gentlemen:—It is my duty to inform you that, at a meeting of the Faculty of the Jefferson Medical College, of Philadelphia, held this day, Professors Gross and Rand were appointed Delegates to the next meeting, at Washington.

At the same meeting, it was resolved that whenever a majority of the prominent schools of the country give their assent to the proposed changes in the curriculum, the Jefferson Medical College will, with the permission of the Board of Trustees, heartily co-operate.

I am, gentlemen, with much respect, your obedient, humble servant, ROBLEY DUNGLISON,

Dean of the Faculty of the Jeff. Med. Coll., of Philadelphia.

Messrs. N. S. Davis, S. D. Gross, Geo. C. Blackman, F. Donaldson, Committee.

UNIVERSITY OF MICHIGAN, *March 20, 1868.*

TO DR. N. S. DAVIS, CHAIRMAN OF COMMITTEE OF THE CONVENTION OF MEDICAL TEACHERS, &C.:

The Medical Faculty of the University of Michigan have received the circular, sent by your Committee to Medical Colleges, and have carefully considered the general plan proposed for revising the system of medical education in this country, and the various propositions in detail, both in reference to their intrinsic merits and their practicability, and have come to the conclusion that the plan referred to is imperfect, and, in some respects, injudicious in its details, and quite impracticable in the present state of the profession among us.

From all the information in our possession, we are of the opinion that its general adoption cannot be secured. These conclusions have not been arrived at through any want of appreciation of the disgraceful condition of medical education among us, or of the importance of medical reform.

It is but just to the Medical Faculty and the Regents of the University, to say that we have long felt the need of such reform, and have, by the institution of preliminary examinations, by the lengthening of the term of instruction to six

months, by requiring faithful attendance upon instruction, and giving certificates of the time of such attendance, by requiring of candidates for graduation frequent exercises in writing, in addition to oral examination, and by furnishing the facilities for practical work on a large scale in the chemical and pharmaceutical laboratory, by requiring a large amount of careful dissections, and by rigid final examinations, endeavoring to do what we could toward effecting such reform. But the changes proposed, we regard as too sweeping and extreme; and, even were its main features adopted, the apportionment of the various subjects for the different years is unequal and imperfect.

Without giving the reasons for the same in detail, we propose the following modifications:—

1st. Every student applying for matriculation in a Medical College, shall be required to show, either by satisfactory certificate or by direct examination, by a Committee of the Faculty, that he possesses a proper moral and intellectual character; a good English education, including a proper knowledge of the English language, and a respectable acquaintance with its literature and with the art of composition; the more elementary mathematics, including the chief elements of algebra and geometry; the elements of the natural sciences, and such a knowledge of language as will enable him to understand the technical terms of the profession; and the certificate presented, or the result of the examination thus required, shall be regularly filed, together with evidence of the time of commencing medical studies, as a part of the record of each Medical College.

2d. Every medical student shall be required to study medicine three and a-half years—deducting, however, six months of time of study in the case of those who may be graduates of a respectable College, requiring four years of the higher studies to complete the course; and, during this time, he must attend two regular courses of Medical College instruction, before being admitted to an examination for the degree of Doctor of Medicine.

3d. The minimum duration of a regular lecture term shall be eight months,

4th. Every Medical College shall embrace in its curriculum the following branches, *viz.:*—Descriptive and Practical Anatomy; Physiology and Histology; Chemistry, inorganic and organic; Materia Medica; Urinalysis and Toxicology; General Therapeutics; Hygiene; Surgical Anatomy; Operations of Surgery; Medical Jurisprudence; Medical Ethics; Practice of Medicine; Practice of Surgery; Obstetrics; Diseases of Women; Diseases of Children; Clinical Medicine and Clinical Surgery; and these several branches shall be divided into two groups, or series, the more elementary subjects, *viz.:*—Descriptive and Practical Anatomy, Physiology and Histology, Chemistry, Materia Medica, Pathological Anatomy, General Pathology and General Therapeutics, being chiefly taught during the first four months of the course, while the more advanced and practical branches, *viz.:*—The Practice of Medicine, Practice of Surgery, Obstetrics, Diseases of Women and Diseases of Children, including Clinical Medicine, Clinical Surgery, Urinalysis and Toxicology, Medical Jurisprudence, Medical Ethics, and Personal and Public Hygiene, shall be chiefly taught during the last four months of the term.

5th. Every Medical College shall immediately adopt some effectual method of ascertaining the actual attendance of the student upon its lectures and other exercises, and also, before graduation, of the actual time devoted to the study of medicine out of College; and, at the close of each College session, or of the attendance of the students, a certificate specifying the time and the course of instruction actually attended, shall be given, and such certificate only shall be received by other Colleges, as evidence of such attendance.

This plan contemplates a positive and respectable standard of preliminary education; a longer time of professional study; a systematic and successive order of studies; a certain amount of Clinical instruction, and a *repetition* of the courses of lectures to the student, thereby securing the correction of misapprehension; a more thorough understanding of the various subjects, and a more permanent lodgment of them in the memory.

The present proposed method of accomplishing these objects

is, in our judgment, far more simple and easy of execution than the one proposed by the Delegates from Medical Colleges, contained in the circular, and also, in our judgment, it is infinitely more likely to be adopted by the schools. For these reasons, we propose the amendment above stated.

In behalf of Medical Faculty of the University of Michigan.

A. B. PALMER, *Chairman of Committee.*

CINCINNATI, *March 9, 1868.*

N. S. DAVIS, M.D., CHAIRMAN COM. ON MED. EDUCATION:

Sir:—The Faculty of Miami Medical College respectfully reply to your Committee, that we regard the suggestions contained in your circular as of grave importance, and that they should receive the careful consideration of all the schools.

In *part*, we heartily endorse the action of the Convention, but in part we do not think the present state of medical society in the United States will warrant the attempt to introduce certain of the proposed changes.

Resolution 1st is approved.

Resolution 2d we deem out of the question at present; but are willing to make rule of three years rigid.

Resolution 3d, approved.

Resolution 4th, so far as the curriculum, number of teachers, and clinical requirements are concerned, we heartily indorse them, and carry them out in our school.

That portion of the resolution proposing a general revolution in the *plan* of teaching, *i.e.*, grading, etc., we deem impracticable at this time, even if desirable, *per se*, of which we are not satisfied. We believe it better to leave the *details* of teaching to the judgment of the individual schools.

Resolution 5th, approved.

The reasons for objecting to *four* years' study are, that students are generally too poor, and the community will patronize those who have studied much shorter time. The result would be to throw a large number of students into practice, less perfectly educated than at present.

The same objectious will apply to enforcing the rule of three

courses of lectures. If these rules were adopted, the result would be to throw a large proportion of students into schools which would not adopt the regulations, and to lessen, with this class, the standard of requirement, and the facilities afforded them for education.

The result of this would be a great diminution of patronage of all good Colleges, and particularly of Western Colleges that made these requirements, as students would attend institutions not adopting the regulations. The effect would be to keep the latter alive, and to build up new ones of the same class.

We object, therefore, to such vital portions of the plan, that we suppose it scarcely necessary to name any time for inaugurating changes. Respectfully,

WM. H. TAYLOR, *Secretary P. T.*

CHARLESTON, *February 25, 1868.*

TO DR.'S N. S. DAVIS, S. D. GROSS, G. C. BLACKMAN, AND F. DONALDSON, COMMITTEE APPOINTED BY CONVENTION OF TEACHERS OF MEDICAL COLLEGES:

Gentlemen:—The circular addressed by you, under the authority of the Convention of Teachers of Medical Colleges, to the Faculty of the Medical College of the State of South Carolina, has been received, and, in compliance with your request, the following answer is respectfully tendered:—

The entire subject matter involves several propositions:—

1st. Expediency and practicability.

2d. The general and special details of the plans proposed.

3d. Suggestions designed to improve those plans.

Upon each of these heads, the Faculty beg leave, respectfully, by way of answer, to offer a few remarks.

The expediency and importance of the measures and objects proposed are too patent to require any argument; and, while with many of the leading Colleges of the Union, the entire practicability is at least probable, it is greatly to be apprehended that, in the Southern States, broken down and impoverished, as they are, with all their resources gone, a policy, otherwise in the highest degree desirable, could not, under existing

circumstances, be successfully carried out. Even under more propitious conditions, there is reason to fear that mere voluntary concurrence would fail to secure the important ends proposed. There are so many rival schools—all self-sustaining—that, under the spirit of competition for numbers, an easy morality, unbridled by restraint, would speedily lead to a neutralization of pledges, however sincerely made in the beginning. It is believed that the objections thus anticipated, can only be met by concurrent State legislation. If all of the States could be induced to adopt a uniform system of medical education, taking as their guide the plan proposed by the Convention, the difficulties would be effectually obviated. The General Government, in consequence of its peculiar organization, does not possess the power.

2dly. The several propositions embodied by the Convention so fully cover the important questions involved, that they present a strong claim to general sanction, and demand but few suggestions, by way of improvement. But as propositions are invited by the Committee, the following are respectfully offered:—

Sec. 1. In connection with the evidences of preliminary education, would it not be better to require the applicant to construe a plain and easy sentence in Latin and Greek, than to have the requirement so indefinitely expressed?

Sec. 2. It is respectfully suggested, in reference to the four years' study proposed by the Convention, three of which are required to be employed in attendance upon lectures in a College, that the first of these four years employed, as it must be in the wasteful expenditure of time in an office, without instruction or proper guidance, can be of no avail to the pupil. If four years are to be required, would it not be more advantageous to exact an attendance on collegiate or university instruction during the four terms? In all European institutions which have been modeled on the results of long and mature experience, it has been found expedient to divide the scholastic year into two terms or semesters; the first extending from the middle of October or the 1st of November, to the 1st of March;

the second, commencing on the 1st of April, terminates on the 1st of August, thus leaving one month in the spring, and two and a half months in autumn, for relaxation from study, and allowing a reasonable time for recreation. This arrangement, it is believed, presents many advantages, not the least of which is, that inasmuch as many of the subjects comprised in the course can be as well taught in the spring and summer, as in winter, others being more advantageously prosecuted during the latter season. And, in addition to this, there is another advantage, *viz.:* the courses, under this distribution, may be so arranged that those which call for the widest range of discussion, as practical medicine, surgery, &c., may be extended through the two semesters, while others of limited extent may be completed in one. This would not only prevent crowding—a great evil under the present system—but allow ample time, during the summer semester, for the advantageous introduction of various collateral subjects, more or less special, but all important, as ophthalmology, ear diseases, dermatology, laryngoscopy, microscopy, chemical analyses, &c.

It is therefore respectfully suggested that instead of a single term of six months, as proposed by the Convention, the scholastic year be divided into two; one for the winter, the other for the summer, as described above, each comprising four months; and that the subjects to be taught be appropriatelty distributed in accordance with this division of time.

Sec. 3. But slight suggestions are proposed in reference to this section. It is nevertheless questionable whether the subjects enumerated could be efficiently taught by a corps of nine professors. Thus, clinical medicine and clinical surgery would perhaps require incumbents, separate from and independent of those engaged in the delivery of didactic discourses on these subjects. As regards the arrangement and grouping of the subjects, a slight modification of the plan proposed by the Contion might perhaps be advantageous. Thus, it is respectfully suggested to separate inorganic and organic chemistry from materia medica, and associate with the two former medical physics—perhaps pharmacy; to add general therapeutics to

materia medica, and to associate toxology with medical jurisprudence, to which, in many respects, it legitimately belongs. Ethics may be rather regarded as a collateral study.

The Faculty deferentially, but with great sincerity, offer these remarks; and while they deem it inexpedient, in view of the present relation of their College, to pledge themselves to an adoption of the measures proposed, they take great pleasure in expressing their cordial approbation of the efforts thus made to improve our system of medical education, and thereby rescue it from the reproaches to which it has been so long amenable. With much respect, your obedient servant,

J. J. Chisholm, M.D., *Dean of the Faculty.*

It will be seen that the first of these replies is entirely noncommittal, while of the remaining nine, four suggest amendments or alterations in the plan proposed, and five unequivocally sanction the plan as a whole, and express a willingness to carry it into practical effect, whenever the other colleges throughout the country will do the same. In addition to these official replies, the Chairman of your Committee has received several letters from individual members of college faculties, and from some of the most eminent in the profession. But as they express only individual opinions, it has not been deemed proper to include any of them in this report.

Your Committee, having been unable to obtain even an expression of opinion concerning the plan proposed by the Convention of 1867, from the faculties of a large majority of the Medical Colleges, have, in accordance with the spirit of their instructions, sent copies of the following circular to all the regular Colleges in the United States.

"The undersigned Committee, in accordance with the instructions of the Convention of Delegates from Medical Colleges, held in Cincinnati, in May, 1867, respectfully and earnestly invite you to send Delegates to a Convention to be held in the City of Washington, on the Friday preceding the first Tuesday in May, 1870; for the purpose of considering all subjects connected with medical college education, and procuring the co-operation of the Schools in carrying out a uniform sys-

tem of medical instruction. It is very desirable that every regular Medical College in the country should be represented in the Convention.

N. S. Davis,
S. D. Gross,
Geo. C. Blackman,
F. Donaldson,
} *Committee.*

Chicago, Ill., *Dec. 22d, 1869.*

It is in response to this invitation that you are assembled here to-day. It is no part of our object, in presenting this report, to enter upon the discussion of the merits of any proposed plans of improvement, but simply to lay before you the record of what was done in the previous Convention, at Cincinnati, and of what has resulted in relation thereto, since. We cannot willingly close this report, however, without a few words of warning or exhortation. From all our correspondence and intercourse with the profession at large, we are satisfied that if this Convention shall result in the actual adoption, by the Colleges, of the plan proposed at Cincinnati, or something equivalent thereto, and the same shall be carried into effect by the Schools located in the cities, named in the circular of the Committee dated Aug. 1st, 1867, they will be fully and promptly sustained by the whole profession, even to the complete repudiation of the diplomas of all colleges that might attempt to maintain any lower standard of action. But if the Convention shall fail in the accomplishment of any important practical results, it will give a powerful impetus to a long-existing, but partially latent, disposition on the part of the profession to practically nullify the value of all medical college diplomas, by establishing independent Boards of Censors in each State, and refusing to acknowledge as regular members of the profession, or admit to membership in any medical society, local, state, or national, all who do not submit to an examination, and obtain a license from such Board. This will be claimed as the only method by which students of medicine can be made to resort to such colleges as will give them the most complete and thorough courses of instruction in every department of medical knowledge, in-

stead of such as will give them a diploma in the shortest time, and with the smallest expenditure of money, for the sake of increasing the number of their classes. The time has fully come when some important practical results must be obtained.

Let us bring to the work calmness, deliberation, liberality of sentiment, and an honorable confidence in the abiding integrity of each other, and the work will be accomplished. Individual interests and prejudices are limited and temporary. But the interests, the honor, and the usefulness of a profession, whose existence constitutes an integral part of civilized society; and whose duties are interwoven with the highest and tenderest interests of the human race, must remain to the end of time, In all our deliberations during the continuance of this Convention, let us forget the first, while, with earnest purpose, we keep the latter constantly in view. All of which is respectfully submitted. N. S. Davis.

Washington, D.C., *April 28th, 1870.*

On motion, the propositions in relation to medical education, adopted by the Convention of 1867, were made the basis for the further action of this Convention; and the Secretary placed in the hands of each member a printed copy of the same. The Convention then adjourned until 10 o'clock A.M., to-morrow.

SATURDAY — SECOND SESSION.

Meeting called to order by the President, at 10 o'clock A.M. The Secretary read the minutes of the previous meeting, and they were approved. A recess of ten minutes was taken, to allow the Committee on Credentials to register new members.

When the Convention was again called to order, Prof. S. M. Bemis, Chairman of Committee on Credentials, reported the following additional members:

Kansas City Medical College. { Prof. John M. Forrest. " A. P. Lankford.

Missouri Medical College.—Prof. A. Hammer.

Med. Depart. University, Nashville. { Prof. W. K. Bowling, " W. G. Briggs.

National Med. College, D.C. { Prof. W. P. Johnston. " N. S. Lincoln.

Med. Depart. University, Maryland.—Prof. F. Donaldson.

Prof. N. S. Davis offered the following resolutions, for the purpose of facilitating the transaction of business, and they were unanimously adopted:

Resolved, That all motions and resolutions except to adjourn, lay on the table, or postpone, must be in writing, with the name of the author attached.

Resolved, That the name of every member who may be recognized as occupying the floor, must be distinctly announced by the President, before he is allowed to proceed.

Resolved, That no member shall be permitted to speak more than once on the same subject, until all others have spoken who desire to do so.

The Secretary announced the reception of a dispatch, saying that John A. Murphy, of the Miami Medical College, and Theophilus Parvin, of the University of Louisville, were detained at Grafton, Va., by failure to make connection in the railroad trains.

Prof. N. S. Davis offered the following resolution, which was adopted:—

Resolved, That the several propositions adopted by the Convention at Cincinnati, in 1867, be taken up separately in the order they stand in the printed report.

The first proposition, which related to the standard of preliminary education, was read by the Secretary. After some discussion, concerning the question whether the action which might be taken was to be considered binding on the institutions represented, it was distinctly claimed by the delegates from Philadelphia and several other places, that they had no authority to pledge their respective schools until their action should have been submitted to their respective faculties. Prof. J. S. Moore offered the following amendment:—

Strike out of the proposition all between the word "education" and the words "and the certificate," and inserting "with a sufficient knowledge of the construction of the language to enable him to understand medical technicalities."

After remarks by Prof. J. S. Moore and Prof. D. W. Yandell,

in favor of the motion, Prof. A. Hammer offered the following amendment to the amendment of Prof. Moore :—

To strike out of the original proposition all that related to Greek and Latin, and retain the rest. He protested against the views expressed by Professors Moore and Yandell, and advocated a fair standard of education, but was willing to omit the ancient languages, if it would be the means of making the rest of the standard more likely to be adopted and carried into practical effect.

Profs. Reyburn, Loomis, and Cox, of Washington, advocated the retention of the original proposition, without amendment.

Prof. D. W. Yandell replied, in substance, that all resolutions and recommendations on the subject were of no avail. The community would employ who they pleased, as doctors, whether they had any education or not; and medical students would go to any College they pleased, if they had money enough to pay the fees, entirely regardless of any standard of preliminary requirements.

Prof. N. S. Davis discussed the subject fully, claiming that the positions occupied by Prof. Yandell, and others on the same side, were wholly untenable. The reason why so large a number of medical students presented themselves to the Colleges, totally without any adequate general education, was simply because the schools required none. Suppose all the Literary Colleges and Universities in the country should open their doors to any who might come, without any examination or standard of previous acquirements, how long before they would be filled with students who had not acquired the first elements of education? If the Medical Colleges make a standard, and provide for its practical maintenance, instead of cutting off the supply of students, it would simply cause such young men as desired to study medicine, to first make the necessary preliminary preparation. And not only this, but the example of the Colleges would be followed by all our social organizations, whether local, State, or National, forbidding any of their members from receiving a student into their offices, without the required amount of mental training.

He thought the subject one of paramount importance; in fact, the very foundation on which all other improvements must rest. He would not be tenacious about Greek and Latin. But the responsibility for the present state of things was directly with the schools. It was narrowed to the simple question, whether the College Faculties will honestly unite on what all agree to be desirable and right, and carry it into practical execution, or whether they will let their mutual jealousies and distrust of each other, keep the education of the whole profession in its present condition?

Prof. A. Stille claimed that the action of the American Medical Association, and that of the previous Convention of College Delegates, had had a good effect. They had advanced and moulded public sentiment in the profession, and much progress had actually been made by the schools. He thought further advances must be made in the same way. He therefore moved the following, as a substitute for both the amendments now before the Convention:—

Resolved, That, in the judgment of this Convention, the propositions adopted in 1867, by the Convention of Delegates from Medical Colleges, embody a system of collegiate medical education in the highest degree commendable, and which, if they could be generally carried into effect, would tend to elevate the medical profession,—that, nevertheless, the requirements for the degree of Doctor of Medicine must be practically determined by each Medical College for itself, by the average attainments of its students, and by other considerations, of which it alone can judge; and that, consequently, while abstaining from all attempts at dictation, this Convention reiterates, in the strongest manner, its desire that the several Medical Colleges will, in the changes from time to time made by them in the curriculum of study, endeavor to conform them to the general plan which was recommended by the Convention of 1867, and adopted in the same year by the American Medical Association.

Prof. Samuel Logan thought the substitute out of order, inasmuch as it carried with it all the subsequent propositions, as well as the one directly under discussion.

The President decided the substitute to be in order.

Its adoption was opposed by Professors Hammer, Logan, J. B. Johnson, and Bemiss, who claimed that they had come to the Convention with such instructions from their respective schools; that they were prepared to act on all the propositions, and with binding effect.

Prof. S. D. Gross, having called the Vice-President to the chair, took the floor, and stated that the whole question was in a nut-shell, and a very small shell at that. It was simply, "Will the American Medical Colleges combine, and go forward to a proper standard of education, or not?" Will the Colleges continue to stultify themselves with resolutions, or will they act? He thought the schools alone responsible, and claimed that they could accomplish the work in an hour, if they would. He said it could be done by no other power—the American Medical Association being powerless in the matter.

In taking the vote on the substitute offered by Prof. Stille, a division of the house was called for, and resulted in *five* affirmative votes, and *fifteen* in the negative. The substitute was rejected.

The question recurring on the amendment to the amendment, as offered by Prof. Hammer, it was opposed by Prof. Gross, and, with the consent of the Convention, it was withdrawn.

The question recurring on the amendment offered by Prof. Moore, Prof. Forrest again raised the question, whether the action the Convention may take is to be regarded as final and obligatory upon the Colleges represented, or only advisory?

A conversational discussion ensued, which developed the fact that a majority of the representatives from Colleges in the West and Southwest had come with definite instructions in favor of advancement and final action; while the representatives from both the schools in Philadelphia, and several others, disclaimed having any instructions, and that, whatever might be done, would have to be submitted to the Faculties of the schools for ratification.

In answer to an inquiry about the terms of the call for this Convention, Prof. Davis explained that the results of the pre-

vious Convention, consisting of the propositions now before this body, were laid before the Faculties of all the Colleges, known to exist in the country, more than two years since, and it was certainly hoped and expected, that, in sending delegates to this Convention, they would so instruct them as to permit final action; but if such had not been the case, we had now no alternative but to regard whatever action we take as advisory.

Prof. Gross moved a reconsideration of the vote on the substitute offered by Prof. Stille, which was seconded. The reconsideration was opposed by Professors Logan and Moore.

Prof. Davis wished it to be understood that most of the Colleges in the West and South were ready to act, and declared that if the old institutions in Boston, New York and Philadelphia, would lay aside their petty rivalries, and act on what they all acknowledged to be right, every College in the Mississippi Valley and beyond it, would cordially go with them. He wished the responsibility to rest where it justly belonged. If, however, we could only advise, he was in favor of holding what we had got at present, and trust to time and Providence for the future. It would be found that there was more than one road to the object sought.

The vote on the reconsideration was carried in the affirmative.

Prof. Gross moved the adoption of Prof. Stille's substitute, which was carried by a large majority.

Prof. Samuel Logan then offered the following resolutions:

Whereas, This Convention has failed to secure the assent of a majority of the regular Medical Colleges of the United States, to the system of improvement in medical education, recommended at its last session; and,

Whereas, It is the opinion of this Convention that the best means by which a judicious system of gradual improvement in medical education can be inaugurated by the Medical Colleges of this country, will be found in the *associated action* of such Colleges as will unite for that purpose; it is hereby

Resolved, 1st. That a committee of nine be appointed, whose duty it shall be to communicate with the Faculties of all the regular Medical Colleges in the United States, with the view to

ascertain how many, and which may be willing to become members of an *Association of Medical Colleges*, having for its prime object the improvement of medical education.

2d. That the Chairman of said Committee be instructed, as soon as he shall have received affirmative replies from ten (?) regular Colleges, to inform each Faculty so consenting, of the fact, and to request that each Faculty elect one or more delegates, to convene on the Friday before the day appointed for the meeting of the American Medical Association, in 1871, and at the place of meeting chosen by that body—said delegates to be fully authorized to pledge their respective Faculties to whatever definite plan of improvement in medical education may be adopted by the body in Convention.

3d. That it is hereby recommended that said delegates organize themselves, in behalf of their respective institutions, into a permanent *Association of Medical Colleges* for the above-mentioned object, and with the view of co-operating with the American Medical Association and the profession at large, in efforts to accomplish so desirable an end.

4th. That Prof. N. S. Davis, the Chairman of the Committee, appointed by the Convention of 1867, to communicate with the Medical Colleges on the same subject, be made the Chairman of this Committee, and that the Committee be authorized to fill any vacancies which may occur in its ranks.

After the reading of the resolutions, Prof. Lankford moved that the Convention adjourn to 8 o'clock P.M., for their further consideration, which motion was seconded and carried.

EVENING SESSION.

The Convention was called to order at 8 P.M.—Prof. Yandell, Vice-President, in the Chair.

The following additional delegates presented their credentials, and took their seats:—

University of Louisville,	Prof. Theopholis Parvin.
Miami Medical College,	" J. A. Murphy.
Medical College of Alabama, (Mobile),	" Edward P. Gaines.
University of Buffalo,	" Chas. A. Lee.

The Secretary read the resolutions offered by Prof. Logan, previous to adjournment.

On motion of Prof. Bemiss, they were unanimously adopted.

The Vice President in the Chair, filled the Committee called for in the first resolution, as follows:—

Prof. N. S. Davis, of Chicago, Chairman.
" Samuel Logan, of New Orleans.
" A. Hammer, of St. Louis.
" T. Parvin, of Louisville.
" S. D. Gross, of Philadelphia.
" A. C. Post, of New York.
" Geo. C. Shattuck, of Boston.
" Geo. C. Blackman, of Cincinnati.
" A. P. Talley, of Charleston.

On motion of Prof. Logan, it was resolved that a complete copy of the proceedings of this Convention be transmitted by the Secretary to the Secretary of the American Medical Association; another copy to the Committee of Nine, just appointed; and another to the medical periodicals of the country.

Prof. A. Hammer offered the following resolution, seconded by Prof. Moore:—

Resolved, That the attempt, on the part of any existing schools, to reduce their tuition fees, or of any new College to be started, to underbid its neighbors, shall be by this body considered and pronounced to be an act of dishonesty.

After some discussion, participated in by Professors Hammer, Murphy, and Davis, the mover, with the consent of the house, withdrew the resolution.

On motion of Prof. Hammer, the thanks of the Convention were tendered to the officers, for the able manner in which they had discharged their duties; and to the Faculty of Georgetown Medical College, for the use of their building.

On motion of Prof. Bemiss, the Convention adjourned *sine die*.

N. S. DAVIS,
Secretary of Convention.

Correspondence.

TEMPORARY INSANITY, FROM THE USE OF BROMIDE OF POTASSIUM.

Knoxville, Tenn., *May, 1870.*

To the Editor of the Medical Examiner:

In Prof. W. A. Hammond's *Psychological Journal*, for Jan., 1869, is an article from the pen of the editor "on Some of the Effects of Bromide of Potassium, in Large Doses." It is but lately that I met with the article in question; and on reading it, it seemed proper to add a few observations, suggested since writing my remarks upon the bromides, in the January number of the Examiner. I then alluded to the case of a colored man, laboring under epilepsy, with some indications of mental aberration.

From Dr. D. T. Boynton, of this city, who had the case in charge previous to my coming here, I learn that the man had taken, during the summer of 1867, bromide potassium, in doses of twenty grains, two or three times daily, quite regularly, and that it was while taking the salt thus freely, that the peculiar form of insanity first manifested itself. Dr. B., at the time, attributed these symptoms to the epilepsy, together with excitement, growing out of local politics affecting his race, and to religious enthusiasm.

He was taking the bromide when I first saw him, Oct. 1st, 1867, and at that time his insanity was most obvious. I only gave eight or ten grains at a dose, after assuming the care of his case; and it was continued for a month or two, but, perhaps, not unremittingly.

I will add, however, that this man appears to be slowly recovering his health. The epileptic phenomena are mainly slight attacks, which he can anticipate, and generally is able to reach his home before becoming insensible.

The fits recur only about once in two months, and his mental

faculties are less impaired. Much good has been accomplished, in this case, by carefully watching the condition of the alimentary canal and the timely use of laxatives.

A second case bearing upon this subject has recently come to my notice. A few months ago, a family removed to this city from Cincinnati. One of the number, a young man, aged 17, has had epilepsy five years. I am informed by Mr. A., an older brother, who is an intelligent druggist, that he had scarlatina ten years ago, from which he slowly recovered. Soon after convalescence, he began to complain of feverishness, attended with a flushed countenance. These attacks were only occasional at first, and lasting but a short time. He was treated, by different medical men, with antiperiodics and tonics, but with no permanent effect.

Finally, these symptoms gradually merged into confirmed epilepsy. Soon after coming here, Mr. A. put up, as he informs me, the following combination, upon his own responsibility:—

℞. Potassii Bromidi, } āā, ---------- ℥j.
Ammonii " }
Fluid Ext. Valerian, ---------- ℥iij.
Aquas Puræ, ---------- ℥xiij.
Strychniar Sul., ---------- gr. j.

M. Sig. Tablespoonful three times daily. Very soon after its use was commenced, the fits became less frequent, so that instead of five or more in a day, he had but one in three weeks.

In less than a month after, however, he began to show signs of mental excitement; and, one day, a servant ran hurredly to announce to Mr. A., that "*Will* had gone crazy."

Dr. Boynton, whose office stood adjoining the house, was requested to see him, and at once decided that he was laboring under the effects of the bromide.

He was very much excited, and drove his mother and sister from the house. Complained of an unpleasant sensation in the forehead, extending towards the left orbit. He was inclined to run about, and there were also involuntary and convulsive movements of the lower limbs. He would run about in a circle and kick at both persons and things.

This continued for some hours; but the exhibition of a full dose of powdered opium soon produced quiet.

Since that time (which was a month or more ago), he has been more free from fits than for a long time.

I have suggested, in this case, a continuance of the bromide, in doses of eight or ten grains, three times daily. The question might arise whether the convulsive movements of the limbs and disposition to kick and run about were not the effects of strychnine. The dose was but $\frac{1}{32}$ part of a grain, and cannot be considered excessive. F. K. BAILEY.

Book Notices.

Anatomy, Descriptive and Surgical. By HENRY GRAY, F.R.S., Fellow of the Royal College of Surgeons and Lecturer on Anatomy at St. George's Hospital Medical School. The drawings by H. V. CARTER, M.D., Late Demonstrator of Anatomy at St. George's Hospital. With additional drawings in the second and later editions by Dr. WESTMAROTT. The dissections jointly by the author and Dr. CARTER. With an Introduction on General Anatomy and Development, by T. HOLMES, M.A., Contab.; Surgeon to St. George's Hospital; Mem. Corresp. *De La Soe de Chir. de Paris.* A new American from the fifth and enlarged English edition. With 462 Engravings on wood. Philadelphia: Henry C. Lea. 1870.

As a whole, this is probably the best text-book on anatomy in our language. The present edition is published in good style. For sale by S. C. Griggs & Co., Chicago. Price $7.00.

Transactions of the Medical Society of the State of New York, for the year 1869.

This is a well-bound volume of 363 pages, containing, in addition to the record of proceedings at the annual meeting,

twenty reports and papers on different topics, biographical sketches of six deceased members, and the lists of permanent and honorary members, etc. It embodies the proceedings and papers of the sixty-second annual meeting of the New York State Medical Society. Copies may be obtained by applying to Wm. H. Bailey, M.D., Secretary, Albany, New York.

Our Home Physician: A New and Popular Guide to the Art of Preserving Health and Treating Disease; with Plain Advice for all the Medical and Surgical Emergencies of the Family, etc. By Geo. M. Beard, A.M., M.D.; Lecturer on Nervous Diseases in the University of New York, etc., etc. E. B. Treat & Co., 654 Broadway, New York; C. W. Lilley, 11 Major Block, Chicago.

This is an elegantly bound volume of 1066 pages, intended, as its title imports, to be a popular treatise on medical matters, for use in the family, etc. It is written in good style; and, in most respects, the views presented by the author are judicious. But the single chapter on the use of alcoholic and other stimulants is calculated to do more harm, mentally and physically, than all the rest of the book can do good.

Editorial.

Proceedings of Medical Societies.—We had intended to publish in the present number an abstract of the proceedings of the American Medical Association, and of the Illinois State Medical Society. But the full record of proceedings of the Convention of Delegates, from Medical Colleges, recently held in Washington, occupies so much space that we shall be compelled to defer that of the national and state organizations until the next number. In the meantime, we will simply state that the meeting of our State Society in Dixon, on the 17th and 18th of May, was one of the most pleasant and profitable that its members have ever enjoyed. Though many of the Commit-

tees were delinquent in regard to reports, yet all the time of the meetings was occupied in the hearing and discussion of papers and questions of importance.

The Committee of Arrangements, in conjunction with the people of Dixon, received the members of the Society with cordial hospitality, and on Wednesday afternoon, gave them a delightful entertainment in the form of a Picnic, on the grounds of Mr. Cherters, located in the bend of Rock River, elevated abruptly one hundred feet or more, and affording one of the most beautiful places that we have visited. The Mayor, the good Ladies of Dixon, the proprietor of the Nachusa House, and the Committee of Arrangements, with its venerable Chairman, will long be remembered with pleasure by those who participated in the meeting at Dixon.

In regard to the recent meeting of the American Medical Association, at Washington, we have space to say only a few words. In numbers, it was equal to any previous meeting. In the scientific part of its work (which is all done in the several sections), it will compare favorably with any of the previous meetings, as the volume of Transactions, when published, will show. The general meetings, which occupy only a part of each day, and which are devoted to the hearing of reports from the Officers and Standing Committees, and the transaction of miscellaneous business were well attended, and resulted in the accomplishment of the usual business in proper order. The only cause of serious annoyance during the recent meeting was the local controversy in the District of Columbia, arising from the attempt, on the part of a few members of the profession, to organize a new Medical Society, coincidently with an effort in Congress to abrogate the Charter of the old Society of the District. Some of the parties to this controversy succeeded in keeping up just enough agitation of it, in the general sessions of the Association, to annoy and disgust many who felt little interest in the local quarrel.

But even this did not create more disturbance than had been induced by other causes, during several previous meetings of the Association. The daily reports in the *Chronicle* and other

Washington newspapers, were simply grossly exaggerated partizan misrepresentations, full of errors both of omission and commission, and we regret to see them copied into the weekly medical journals of Philadelphia, New York, and Boston.

American Medical Association, Record of its Proceedings.—We are informed that Dr. W. B. Atkinson, permanent Secretary of the Association, proposes to publish an edition of the proceedings of the recent meeting of the Association, in pamphlet form, for twenty-five cents per copy. We hope all members of the profession who desire a *correct* account of the doings of the Association, will send him their names without delay. His address is, Wm. B. Atkinson, M.D., S.-W. Corner of Broad and Pine Streets, Philadelphia.

Allen County Medical Society.—We had the pleasure of attending the annual meeting of this Society yesterday, May 31st, at Fort Wayne, Indiana. The number in attendance was large, evincing an active interest in professional advancement highly commendable. Several highly interesting cases of diseases and accidents were presented to the Society, followed by a discussion on scarlet fever, in which most of the members participated. After the public address in the evening, an elegant entertainment was given at the McKenzie House, which was highly enjoyed by all. We ought to have many more such societies.

Professional Quarrels.—"In New York, Boston, Chicago, and some other cities, members of the medical profession are fully engaged in professional and personal quarrels."—*Buffalo Medical and Surgical Journal.*

We clip the above from an editorial in the April number of the *Buffalo Medical and Surgical Journal*, for the purpose of asking our confiéré, why he perpetrated such a slander upon the profession of this goodly city. We know of no quarrels in the profession here, and have known none for the last ten years. On the contrary, we think it would be difficult to find any city in which there is less professional bickering or controversy

than here. We think our neighbor in Buffalo must be mistaken in his geography.

Mortality for the Month of April, 1870.

Accident, burned by petrolium	1	Drowned	4	Meningitis, cerebro-spinal	6
" drowned	1	Dysentery	3	Metritis	1
" fall	2	" acute	1	" puerperal	2
" foreign body in trochea	1	" chronic	1	Necrosis of sacrum, result of fall	1
" overdose soothing syrup	1	Embolism, fr'm wound of foot	1	Nephritis, chronic	1
" wound, gun-shot, of chest	1	Endocarditis	1	Neck, tumor	1
" run over by wag.	1	Enteritis	7	Old age	5
" scalded	1	Erysipelas	5	Paralysis	2
" railroad	1	Fever, congestive	2	Paraplegia	1
Abscess, pelvic	1	" puerperal	5	" result of injury to spinal cord	1
Anæmia puerperal	1	" remittent	2	Peritoneal inflammation, acute, from gall stone	1
Apoplexy	2	" scarlet	27	Peritonitis	3
" abscess of brain	1	" " complications	3	" following operation for stone in bladder	1
Ascitis	1	" " malignant	7	" chronic & dropsy	1
" cirrhosis of liver	1	" typhoid	8	Pleurisy	2
Asphyxia	1	Gastritis and entero-colitis	1	Pneumonia	49
Asthma and myelitis	1	Hemorrhagia, general	1	" broncho	1
Atelectasis pulmonum	1	Hemorrhage, cerebral	1	" & complications	2
Aneurism, abdominal	1	Heart, dropsy, result of angina pectoris	1	" typhoid	4
Bowels, cancer	2	Hemiplegia	1	Pyæmia	1
Brain, congestion	9	Hepatitis, chronic	2	Scrofula	1
" inflammation	4	Hernia, incarcerated	1	" of head	1
Bronchitis	14	Hydrocephalus	12	" enlargement of bronchi'l glands	1
" & complications	2	" acute	1	Small-Pox	3
" chronic	1	" chronic	1	Spina bifida	1
" capillary	3	Hydro-pericarditis	1	Spine, caries	1
Carditis	1	Inanition	16	Stomach, cancer	2
Cancer of back	1	Intemperance	1	Suicide, laudanum	1
Childbirth	2	Kidneys, disease of	1	Syphilis, congenital	1
Consumption	57	" Bright's "	5	" hereditary	1
Convulsions	50	Laryngitis	1	Tabes mesenterica	10
Croup	7	Liver, cirrhosis	1	Teething	3
" diphtheretic	1	" cancer, & dropsy of abdomen	1	" & complications	2
" membranous	3	Lungs, congestion	4	Thrombosis, puerperal	1
Cynanche tensillaris	1	" " and heart, fatty degeneration	1	Uterus, cancer of	2
Cyst, hepatic	1	" emphysema	1	Unknown	1
Debility, general	3	" hemorrhage	2	Whooping-cough	5
Delirium tremens	2	Measles	7	" & complications	1
Diarrhœa	3	" & complications	7		
" chronic	1	Metro-peritonitis	1		
Diphtheria	9	Meningitis	12	Total	494
Dropsy, general	4				
" of abdomen	1				
" " chest	2				

COMPARISON.

Deaths in April, 1870, 494 | Deaths in April 1869, 381 | Increase, 113
Deaths in March, 1870, 537 | Decrease, 43

AGES.

Under 1	154	10 to 20	14	60 to 70	13
1 to 2	72	20 to 30	4	70 to 80	7
2 to 3	25	30 to 40	42	80 to 90	5
3 to 4	18	40 to 50	29		
4 to 5	15	50 to 60	17	Total,	494
5 to 10	34				

Males,	280	Females,	214	Total,	494
Single,	375	Married	119	Total,	494
White,	481	Colored,	13	Total,	494

NATIVITY.

Bohemia	5	Germany	66	Scotland,	2
Canada	6	Holland	5	Sweden	8
Chicago, Native	78	Ireland	45	Switzerland	1
Chicago, Foreign	190	Norway	4	Unknown	3
U. S., other parts	64	New Brunswick	1		
Denmark	1	Poland	2	Total,	494
England	13				

MORTALITY BY WARDS FOR THE MONTH.

Wards.	Mortality.		Mortality.
1	10	Unknown Ward	1
2	17	Accidents	10
3	18	County Hospital	11
4	13	Convent of Good Shepards	1
5	10	Home for Friendless	3
6	25	Hospital Alexian Brothers	2
7	25	Half Orphan Asylum	1
8	47	Immigrants	1
9	42	Jewish Hospital	2
10	13	Luke Hospital	2
11	23	Lutheran Hospital	1
12	17	Lake Basin	1
13	7	Mercy Hospital,	4
14	15	Protestant Orphan Asylum	4
15	36	St. Luke Hospital	2
16	28	St. Joseph Orphan Asylum,	11
17	26	Suicide	1
18	34		
19	16	Total,	494
20	14		

DR. DIEULAFOY'S "ASPIRATEUR SOUSCUTANE."—Under this name an instrument has been suggested, by means of which effusions into synovial or serous membranes, collections of pus or blood, and even hydatid sacs may be safely evacuated. It consists of an instrument resembling a subcutaneous injection syringe, with a terminal and a lateral tube fitted with stop-cocks, to which a *capillary* trocar can be fitted, so that after withdrawal of the morbid liquid an injection may be practiced, without removing either the trocar or the pump.—*Medical Times and Gazette, Nov. 20th, 1869.*

Quackery and the Press.— * * * "The most powerful auxillary of quackery is, undoubtedly the press; in fact the nostrum-vendors depend so entirely upon it for support in the way of advertising themselves, that without it they could do nothing. The press, in its turn, as a matter of emolument, opens its columns freely and unreservedly to any who choose to pay the cash price for such a privilege of an insertion. This practice is, as is well known, not confined to any particular class of periodicals, for even the most respectable of them eagerly bite at the bait. We doubt whether there can be found to-day, over this country of ours, more than half-a-dozen journals, religious or political, that dare refuse admission into their advertising columns of any quack nostrum that may be offered. On other points they may be orthodox enough; very many will not advertise licentious books, improper places of amusement, and not a few religious papers will go so far as to refuse the announcement of new works of fiction; but at the same time column after column of testimonials of cure by this and that remedy will appear with every issue."

We copy the above from the *Medical Record* (New York), both to endorse most fully all that it says in relation to the evils of advertising "quackery," and to point a moral to the tale by asking the *Record* to pluck the beam out of its own eye. It should call a blush to the entire medical press of this country that *money* is able to purchase the use of their columns for advertising some of the worst quackery known to medicine. The newspaper is *not* a medical journal; it does not assume to educate the people in this department; but the medical journal does assume to educate and inform the profession, which, in turn, is to instruct the people. We are gravely told, in the article quoted from above, that "the safest way to give medical facts to the community is to quote them from some medical journal of standing." Which are more worthy of confidence, the opinions of lawyers and clergymen of "troches" and "soothing syrup," or the published certificates of medical men attesting the wonderful virtues of some secret compound? How about "sweet quinine," "cincho-quinine," "svapnia," "cod-liver extract," tolu anodyne," "elixir of opium," together with sundry other "elixirs," and secret proprietary articles, all bearing heavy scientific names, in which their science princi-

pally consists, save only in the art of inducing medical journals to recommend them. Alas! is "the temptation of money too great to be resisted," or shall we see a reform in this matter? A sin may be measured by the light sinned against; by this guage, which is the more guilty, the newspaper, that knows nothing of medicine, or the medical journal, that professes to be a guide in all such matters? We hold the latter to be; and while it may not advertise female pills, it yet offers its endorsement to a class of medicines equally unworthy of confidence, and which it advertises (with *cross-line devices* borrowed from the quack advertisers in the newspapers) for precisely the same reason—to make money. The effect is also similar, as many poorly informed physicians use these nostrums, believing they have found at last the elixir vitæ. While we uphold the *Medical Record* in its position, we hope it will aim its next broadside at the "medical press," and, in its usually skilful manner, strike another blow at quackery.—*Pharmacist.*

Enlarged Tonsils Removed without Cutting.—Dr. A. Ruppaner reports (*Phil. Medi. & Surg. Reporter*) 123 cases of enlarged tonsils removed without cutting. In reference to the many objections to the operation of excision, made by parents or friends and often fostered by physicians, he says, "Dr. James Yearsley, of London, has operated in more that *three thousand cases* without asingle accident, or a single unfavorable result from excision. The testimony of other distinguished surgeons is no less positive. In my own practice I have operated on several hundred patients without a single accident, nor was a solitary case followed by unfavorable or injurious consequences." There are cases, however, in which excision is impracticable, and in which nitrate of silver and iodine have been recommended. Dr. Ruppaner is of opinion that these are useless. Two much more active and satisfactory remedies proposed by Dr. Fournie, of Paris, are *Vienna paste* and *bichromate of potassa*, the former of which is preferred. A better preparation still is the *London paste*, proposed and named by Dr. M. Mackenzie, and consisting of equal parts of *caustic soda and lime*, moistened with a little absolute alcohol. The caustic lime and soda, finely pulverized and intimately mixed, is kept in a well-stoppered bottle. "When an application is to be made to

the tonsils, a little of the powder is put into a small, porcelain cup, a few drops of absolute alcohol, which is kept near at hand, are added, the two are carefully mixed with a glass rod, when the paste is ready for use. Care must however be taken that it be of the proper consistency. If too thin, it is apt to find its way to parts which ought not to be touched; if too thick or lumpy, the paste will not readily stick, and little pieces might be swallowed. To apply the paste, a glass rod of sufficient length ought to be used. The end of it, which must be smooth and slightly funnel-shaped, is dipped into the paste, and a greater or lesser portion of the surface touched, as occasion may require." It is better that the patient should be in the position for laryngoscopy, when the paste is applied. Its action is very rapid, and occasions but little pain. The mucous membrane almost instantly assumes a deep flesh color, and presently a dark, blackish patch is seen, streaked with blood. The following day the tonsil is covered with a whitish yellow eschar. The operation is to be repeated in two or three days. The minimum number of applications in the 123 cases was 6, the maximum 14, and the time of treatment extended from three weeks to two and a half months.—*Pacific Medical and Surgical Journal.*

Effects of Tobacco-Smoking on Children.—It seems that the habit of smoking has taken possession of the boys in France to such an extent as to elicit serious inquiry as to its results. An able writer describes his experience on the subject, and comes to the following conclusions:

1. The pernicious effects on boys are incontestable.
2. They consist of pallor, chloro-anemia, palpitations of the heart, diminution of the normal number of red globules, and impaired digestion.
3. The ordinary treatment for anemia, etc., is ineffectual so long as the habit of smoking is persisted in.
4. Boys who are addicted to smoking exhibit a want of intelligence, and have a liking, more or less decided, for strong drink.
5. Those who abandon the practice before any serious organic lesions are produced, recover their health perfectly.

This subject concerns hundreds and thousands of boys in California. We may see daily, in the streets of San Francisco, scores of little human apes, scarcely old enough to dispense with diapers, puffing cigaritos and long nines, with all the airs of their exemplary parents. Beardless youths strut everywhere

in thoroughfares and public places, sucking their sweet Havanas and meerschaums, and illustrating the benefits by a disgusting display of sunken eyes, lank cheeks, and bestial mouths—degenerating into animals, instead of growing up to manhood.—*Pacific Medical and Surgical Journal.*

Collodion in Enuresis.—Sir D. J. Corrigan, Ireland, calls attention to a mechanical treatment of this trouble, in which, while the prepuce slightly curved up is held with the left hand, the surgeon smears over the little cup thus formed by the extremity of the prepuce, with collodion, by means of a small camel's-hair pencil, or blunt end of a penholder. Almost as fast as applied, the collodion solidifies. In contracting, it draws closely together the edges of the prepuce, and thus the exit for the escaping urine is closed. A boy of eleven years of age has, after one lesson, been able to use the collodion. A fortnight's use is sometimes sufficient for the cure. A relapse is easily dealt with. When the child or youth desires to pass water, the little wedge or cap of collodion is easily removed with the finger nail. When "I first used this collodion application, my expectation was that the bladder would act so forcibly against it as to cause sudden pain, and oblige the patient to jump at once out of bed and quickly remove the collodion, and that he should then repeat the application before returning to sleep. I was agreeably disappointed. There was no pain; no awaking; but on rising in the morning, the prepuce was found slightly distended with urine, and the collodion was removed without difficulty." It is most easy of application, occupies scarcely a minute, and can be carried out at school or elsewhere in perfect privacy.—*Dublin Quarterly Jour. of Med. Science.—Am. Practitioner.*

Excision of Kidney.—Dr. Simon, of Heidelberg, has performed a surgical operation of considerable interest. In a woman upon whom he had performed ovariotomy there remained a flow of liquid issuing from a distinct situation in the abdominal cicatrix. All remedial proceedings, and even autoplasty, were successfully tried to no purpose. The character of the fluid was then investigated, and was found to be urine, proceeding from a lesion of the ureter which had occurred during the operation. Dr. Simon then undertook a series of experiments on animals with the object of determining whether a kidney might be removed without any evil consequences to the economy. The end of these researches was the decision to

extirpate the kidney, and the operation has been performed with the most satisfactory results.—*Lancet, Feb. 3, 1870.*

Cynanche Tonsillaris.—Dr. F. P. Atkinson, London, treats this troublesome affection in the following way: Bicarbonate of potash, one scruple; powdered guaiacum, ten grains, or tincture of guaiacum, half a drachm; mucilage, as required; water to the ounce; with fifteen grains of citric acid three times a day, in a state of effervescence. A gargle of twenty minims of tincture of iodine to the ounce of water (to be used by being held in the mouth and the head shaken from side to side). Three or four glasses of port-wine daily, and plenty of beef-tea. If the weather is fine, a little gentle exercise in the open air. Purgatives are not necessary, since as soon as the disease is over, the bowels regain their proper tone and become perfectly regular.—*Am. Practitioner.*

Almost a Death from Chloroform.—Dr. Wm. Walling, of this city, reports to us an interesting case, in which death seemed imminent, from a drachm of chloroform taken into the stomach. The subject was a healthy young man, a student of medicine, who took the chloroform (by Dr. W.'s advice) for colic. In about twenty minutes after swallowing it, he complained of dizziness, and, a little while after, fell over, motionless and insensible. For a time, no respiratory movements were perceived, and the pulse at the wrist failed, and the carotid arteries beat languidly. For nearly an hour, the pulse was not more than 45, and occasionally below 40, and feeble. Hartshorn was held near his nose and applied to his face, with affusions of cold water. Suddenly he rushed up and spoke, and all the alarming symptoms passed off, greatly to the relief of his medical adviser. Physicians often prescribe chloroform internally, in drachm doses. This case shows that such doses may be followed by appearances frightful to the oldest practitioner.—*American Practitioner.*

Antagonism of Morphia and Atropia.—A good example of the antagonism of these drugs is referred to in the *Medical Times and Gazette*, for Nov. 20, as occurring in the practice of M. Bêhier. In this case, an old man took a solution of sulphate atropia, prepared for ophthalmoscopic purposes, containing one-fifth of a grain. He experienced an acid taste in the throat, slight embarrassment in the movements of the tongue, muscular weakness, a difficulty in walking, soon amounting to

impossibility, and disturbance of vision. M. Bêhier, knowing the antagonism of morphia and atropia (described by Gräfe in 1862), prescribed ten drops of laudanum every ten minutes. Each dose diminished the intensity of the symptoms. The patient took on the whole seventy-six drops — a dose which, if he had not previously taken the atropia, would have undoubtingly produced symptoms of poisoning by opium.—*Cincinnati Lancet and Observer.*

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The Twenty-eighth Annual Course of Lectures will commence on Wednesday, Sept. 28th, 1870, and continue eight weeks.

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THE

CHICAGO MEDICAL EXAMINER.

N. S. DAVIS, M.D., EDITOR.

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Original Contributions.

ARTICLE XVII.

A FRAGMENT OF KNIFE-BLADE LODGED IN THE CHEST FOR TWELVE YEARS, AND FINALLY COUGHED UP.

CASE REPORTED BY J. F. SNYDER, M.D., of Virginia, Cass Co., Ill.

[To the Morgan Co. Medical Society, June 9th, 1870.]

Of the remarkable records in medical literature of extensive lacerations of the living tissue, hedged in and restored by the curative process of Nature—and in spite, sometimes, of meddlesome, surgical interference—there are none more marvelous, and but few which better illustrate the peculiar *vis conservatrix* inherent to the organized system, than the many wonderful recoveries from grave injuries of the thoracic organs.

The dissecting room has revealed great cicatrices of the lungs, where cavities, left by broken down tubercles, have been arrested in their destructive progress and healed by this subtile life-power.

Persons have lived for years, in comparative good health, with pieces of cloth, paper, cartridges, fragments of steel and bullets encysted in the parenchyma of the lung—that vital organ which, in sleep or wakefulness, never rests for a minute, from birth until death.

Dr. Druitt relates the case of a soldier, who had "for years a leaden ball rolling about loose in the cavity of the pleura, without occasioning pain or inconvenience."

Mr. J. Bell tells us of "a surgeon who was dabbling in the thorax, with a piece of caustic, which fell directly into the cavity of the chest, where it caused very large suppurations, and yet the patient was saved—he recovered, in spite of the surgeon."

Gen. James Shields, formerly representative of this State, in the U. S. Senate, was shot, during the Mexican war, with a copper ball, weighing an ounce, which passed *through* his chest, penetrating the right lung, a little below its centre; yet his recovery was speedy and complete.

The following strange case of tolerance of a foreign body in the thorax, and its spontaneous removal, came under my observation, not long since; and I have deemed it worthy of record, as a curiosity of surgical pathology.

James Thompson, sixty years of age, stout and robust, usually, of active habits, suddenly commenced declining in health, without apparent cause. When I was consulted, he had been, as he expressed it, "under the weather for five or six weeks." His symptoms were a troublesome, dry cough, furred tongue, loss of appetite, emaciation, hectic night-sweats, and pain in the right side. Previous to the initiation of this train of symptoms, which he attributed to "catching cold," he had always enjoyed excellent health, "excepting," as he said, "occasional twinges of rheumatism, for the last dozen years, under the right shoulder-blade," whenever he exerted himself at any kind of manual labor.

The chest examined, revealed a portion of the right lung, two or three inches in diameter, just below the nipple, entirely impervious to air, and all the organ below that, very dull, on percussion. The left lung was evidently healthy, though overtaxed by its vicarous labor.

The *diagnosis* suggested was *circumscribed pneumonia*, originating, perhaps, in the increasing size and consequent pressure of some isolated tubercular mass. (I will here state that the

patient's wife died a few years before of *phthisis*, and it is possible I was influenced in my conclusion by a vague idea of the contagious theory of that disease.)

The *treatment* ordered consisted of stimulating expectorants, mineral acids, and counter-irritants. For four weeks more the case continued without change, save a gradual aggravation of all the symptoms, increased dyspnœa, and free expectoration, when one day, in a hard paroxysm of coughing, the patient threw up, from the right bronchia, an ounce or two of pus and a hard substance, which attracted his attention, by the force with which it struck the floor. On examining the substance, it proved to be the *point of a knife-blade*, an inch in length, half an inch in width, and weighing half a drachm. The fragment of steel was much corroded and pitted by oxydation, as will be seen by the subjoined photograph of actual size.

The patient now remembered a circumstance he had entirely forgotten—that *twelve years* before this, in a street fight, at Beardstown, in which himself and several others had been engaged, he had been "stabbed in the back, about the lower point of the shoulded-blade," but as the wound gave him no pain and soon healed, he had no suspicion that any part of the blade had remained embedded in his body. The true pathology of the case was now manifest, and the patient rapidly recovered his health.

The points of interest in this case are,

1st. That such a foreign body should have so long remained fastened in the bone (either the scapula or rib) without causing necrosis or other disturbance, save occasional slight pains, attributed by the patient to rheumatism.

2dly. That, supposing the knife had passed *through* the bone at once, or had penetrated the thoracic cavity, between the ribs, it failed at the time to excite severe inflammation and produce exhaustive suppuration. And

3dly. That, having penetrated the substance of the lung, into the bronchia, by adhesive inflammation and suppuration, it should have been so easily expelled through the *thyreo-arytenoid ligaments* and the *glottis*.

Original Translations.

NEW INVESTIGATIONS CONCERNING EPILEPSY, RESULTING FROM CERTAIN LESIONS OF THE SPINAL CORD, AND OF THE RACHIDIEN NERVES.

By DR. BROWN-SÉQUARD.

[Translated for the Medical Examiner.]

As space is wanting to give in this article the extensive account which the subject merits, I shall resume, briefly, some of the different points to which I wish to call the attention of my readers.

In the two preceding parts, I have examined the particulars relative to the wounds which occasion epilepsy among guinea pigs, as well as those concerning the epileptic zone, the phenomenon of the attacks, etc. I shall give a summary of the facts, commencing by some additions to the different points which have engaged me in the portions of this paper already published.

X. Additions to the Preceding Paragraphs.

These additions have, for their especial object, the lesions which can produce epilepsy, the time of the appearance of this affection after certain lesions, the extent of the epileptic zone, the difference of excitability at divers points of this zone, finally, the spontaneous cure of epilepsy, caused by the lesion of certain nerves, or of the spinal cord.

1st. *Lesions which can produce Epilepsy.*—It is stated in the first part of this article, that I have once seen epilepsy intervene after a lesion of the rachidien bulb, in a guinea pig. From my notes in regard to this animal, I extract the following particulars, which show what are the resemblances and the differences existing between this case of epilepsy, and those where the affection is originated by the section of the sciatic nerve, or of the spinal cord.

The lesion, which consists in an extirpation of the V, of gray

substance, at the calamus scriptorious, and of a part of the two restiform bodies (more on the left than the right) in the vicinity of this little, gray mass, was made upon a female guinea pig, in May, 1858. In less than two months she commenced having spontaneous attacks of epilepsy, the frequency of which became excessive. Sometimes, to my knowledge, she had as many as twelve or fifteen attacks, during a day, which evidently implies a far greater number. As a day never passed without her having at least from four to eight paroxysms, she must have had during the last fifteen months of her life, many thousand attacks. In a great number of guinea pigs which have suffered a lesion of the spinal nerve, I have seen the spontaneous attacks occur as frequently, for a few consecutive days, and even during one or two months, but never for three consecutive months.

One could provoke an attack upon her, as among all guinea pigs becoming epileptic after lesion of the nerves or spinal cord, by irritating the skin, at the angle of the lower jaw. In her, this was effected on the left side, where the lesion of the bulb was more extensive; and the convulsive movements were much more marked on the left side.* Frightening her, by a sudden motion, was frequently sufficient to occasion an attack, which was not the case among animals rendered epileptic by other lesions. Sometimes her paroxysms, either spontaneous or provoked, were followed by unmistakable coma. This, I have never observed in other guinea pigs, whatever may have been the cause of their epilepsy.

There is, then, respecting the two characteristic traits, which consist in the production of epilepsy, and in that of a cutaneous,

* The animal had a wheeling to the left (like a movement in horsemanship) for many days after the lesion of the rachidien bulb; this tendency to wheeling continued throughout its life. When the animal was frightened, without causing an attack of epilepsy, the body frequently would curve to the left, until the nose almost touched the sacrum. Hyperæsthæsis and an elevation of temperature existed in the left limbs. There were many slightly sensitive spots on the face, especially on the left side. The eyes and ears, on the left side particularly, were the seat of alterations, which I shall describe hereafter, in a work upon the influence of lesions of the restiform bodies upon nutrition, in these parts.

epileptic zone, a perfect similitude between the effects of lesion of the bulb, in the case just described, and those observed after certain lesions of the spinal centre, and of its nerves, among guinea pigs.

Time of the Appearance of Epilepsy.—I have stated in the preceding number, that in two cases, the first reflexive, convulsive phenomena have shown themselves the third day after the section of the sciatic nerve. I have just seen some phenomena of this kind, upon irritating the epileptic zone only forty-five hours after this injury. But these first symptoms may also be much retarded in their appearance, occurring twenty days, and in one instance, twenty-two days after the lesion.

Previous to the 25th of April last, the earliest complete attack following the section of the sciatic, or of the internal popliteal nerve, aside from the one just mentioned, has occurred on the eighth day. Since then, I have observed the first attack appear in one instance on the sixth, and in another on the seventh day. The earliest complete attack I have observed, after the section of the posterior roots of the spinal nerves forming the sciatic, and that of the roots of the last four or five dorsal pairs, has been eight days after the first of these lesions, and thirteen days after the second.

The early development of the first reflex phenomena bears no fixed relation with that of the first complete attack. For example, I have seen reflex, convulsive movements manifested in four days after the section of the sciatic, in an animal that had its first attack after twenty-one days, and, on the contrary, I have produced the first completed paroxysm, the fifteenth day after this lesion, in a guinea pig, which had the first convulsive symtoms only three days previously. Many similar experiments have induced me to consider it probable that the frequently repeated irritation of the skin of the neck and face have developed the epileptic faculty there sooner than it would have naturally manifested itself after the lesions which produce epilepsy.

Extent of the Epileptic Zone.—In guinea pigs that have suffered a section of the lateral half of the spinal nerve, in the

region of the last dorsal or first lumbar vertebræ, the epileptic zone may extend to other portions than those whose limits I described in the first part of this paper. After a certain time, it almost always extends from, the omoplate to the middle line of the back, and occupies a narrow band (about one centimetre in width) along this line to the sixth, seventh, or eighth dorsal vertebræ, on the side of the lesion. I observed repeatedly that pinching this little band of skin would provoke an attack, but noticing that before the appearance of the convulsion the animal would turn its head towards the pinched part, I believed for a long time that the friction occasioned by this movement sufficed to explain the paroxysm. But I have been convinced recently by the most positive evidence that this irritating the skin of one of the vertebral grooves is really the direct cause of the attack; for in some cases it has appeared the moment I pinched the skin, and in other instances, where I could, without irritating the epileptic zone of the head and neck, prevent any turning of the head toward the injured side, I have witnessed the convulsions, after pinching this band of skin alluded to.

I will say in addition, that when epilepsy has continued a long time, after a lateral hemisection of the spinal cord, the skin covering the vertebral groove, especially in the vicinity of the omoplate, may possess the epileptic faculty in a much greater degree than that of the face.

It seems certain, then, that after a section of the lateral half of the spinal nerve, at the level of the last dorsal, or the first lumbar vertebræ, the epileptic zone includes generally, if not invariably, in addition to a portion of the skin of the face or neck (see fig. 6, pl. V.), a narrow band of skin, extending over one of the vertebral grooves, from the neck unto the sixth, seventh, or eighth dorsal vertebra.

From long continued observations, but more particularly from those of recent date, it appears that the extent of the epileptic zone along the back is diminished, when the lateral hemisection of the spinal nerve approaches the caudal extremity. For example, in a guinea pig now under my notice, the section was made at the level of the fifth lumbar vertebra, and the epileptic

zone is limited to the face and a small portion of the neck, not extending to the omoplate, while in another, having the lateral hemisection of this nervous centre at the level of the eighth dorsal vertebra, the zone extends unto the cicatrix.

Degree of Excitability in different parts of Epileptic Zone.—In double epilepsy, which is caused by one lesion on the right, and another on the left, consisting either in a section of the two sciatic nerves, or of a traverse section of the posterior half, or the entire thickness of the spinal nerve, or finally, of the section of the sciatic nerve on one side, and a lateral hemisection of the nervous centres on the other, there is generally more excitability in the portion of skin covering the spinal processes of the first six or seven dorsal vertebræ, than elsewhere. Nevertheless, the point of the epileptic zone, possessing the greatest power of engendering an attack, varies considerably in cases of transverse section, either partial or complete, of the spinal nerve, or even in cases of section of one or both sciatic nerves. In this respect, the dissimilarity is not entirely attributable to the kind of lesion, as a difference is noticed in animals that have suffered the same lesion, and even in the same animal, at various times. Meanwhile, the points which are generally the most excitable, are the little portions of skin covering the angle of the lower jaw, the anterior and superior borders of the omoplate, the side of the spinal processes of the fourth, fifth, and sixth dorsal vertebra, and finally, the skin of the cheek, below the eye.

Spontaneous Cure of Epilepsy, produced by the Section of certain parts of the Spinal Cord, or of certain Nerves.—I can repeat what I have previously said, that I have never seen a spontaneous cure of a guinea pig, rendered epileptic by a lesion of the spinal cord. I can also affirm the same of animals becoming epileptic after the *section* of the sciatic nerve; of the internal popliteal; of the posterior roots of the sciatic nerve; or of those of the last dorsal. But I have seen a case of spontaneous cure in a guinea pig that had suffered a mechanical *irritation* of the sciatic nerve. At present, I only mention this fact, but I shall show hereafter that it bears a very important relation to the theory of epilepsy.

When the lesions of the nerves, or of the spinal centre, are incapable of producing complete epilepsy, but at the same time sufficient to occasion some reflex convulsive movements, after irritation of the epileptic zone, the spontaneous cure generally takes place within six or eight weeks. If I had not killed a number of animals before their cure, I might have been able to say this was always the case.

I wish to remark that here only the *spontaneous* cure is mentioned. In another article I shall call attention to curability under different methods of treatment.

XI. Production of Epileptic Attacks, after the extirpation of the Cerebrum, the Cerebellum, and other parts of the Encephalon.

Long since, I have demonstrated in my course the important fact that, in guinea pigs having suffered a partial or complete section of the spinal nerve, an attack can still be produced, after removing a considerable portion of the encephalon.

While maintaining life by pulmonary insufflation, in epileptic guinea pigs, from whom I have removed the cerebrum, the cerebellum, and a great portion of the annular protuberance, I have succeeded in producing a number of paroxysms, entirely similar to those taking place in these animals before the mutilation of the encephalon. The attack can be produced by pinching not only the skin of the neck and the vertebral grooves, but also the portions of the epileptic zone receiving the ramifications of the auriculo temporal and of the suborbital nerves.

* This animal is the only one which I have known to survive complete attacks of epilepsy, after an irritation of the sciatic nerve. I compressed the nerve strongly with a pair of forceps, on the 4th of May. This irritation produced anesthæsia and paralysis of the limb. On the 13th of May, the reflex, convulsive movements were already strong. The 15th, a violent, *incomplete* attack took place. The first complete attack occurred on the 20th. During the first days of June, I could only induce some reflex, convulsive movement, which declined in intensity from day to day, and on the 10th of June, there was no longer any trace of epileptiform affection. At the same time that the amelioriation of the convulsive phenomena began, the voluntary motion reappeared in the foot, whose nerve had been injured. To-day (June 22), there is no trace of any morbid state whatever in the animal.

I have long ago ascertained, among animals epileptic or not, when the loss of blood has not been profuse, after the extirpation of a great part of the encephalon, that pulmonary insufflation augments the reflex faculty of the rachidien bulb and of the spinal cord, as well as the excitability of the nerves and muscles. I have not been surprised, then, in finding that when insufflation has been practiced for eight, ten, or twelve minutes, upon epileptic guinea pigs, the facility of provoking attacks by irritation of the epileptic zone is augmented materially.

In one case I was able yet to produce paroxysms after the extirpation of all the encephalon, except the rachidien bulb, and, in another animal, I even caused a very severe convulsion, after at once cutting across the rachidien bulb, immediately below the origin of the pneumo-gastric nerves, having previously maintained pulmonary insufflation for ten minutes. It is not necessary to say that exciting the portions of the epileptic zone, animated by the trigeminal, proved ineffectual, and that it was irritation of the skin of the neck, and of the posterior part of the back, which occasioned the attack. The animal became epileptic in consequence of a complete transverse section of the spinal cord, at the level of the tenth dorsal vertebra.

My colleague Vulpian was the first to make the experiment showing that attacks of epilepsy can still occur, after the removal of a large part of the encephalon, in animals epileptic in consequence of the section of the sciatic nerve.*

I have performed it many times since, and always with the same results that I have mentioned above. I will remark, in reference to the experience of my colleague, that if he has believed an attack could be produced by any irritation whatever, instead of the irritation of a certain zone only, it is because, although not recognizing the epileptic influence of this zone, he held the animal by the neck, while he irritated it elsewhere. The guinea pig struggling, rubbed the neck or the face against the hand which retained it, and the epileptic zone thus received the irritation which occasioned the convulsion.†

* See *Archives de Physiol. norm*, etc., vol. II, 1869, page 297.

† See note, page 433, of the second part of this paper, *Archives de Physiology*, May, 1869.

Within a recent period, a German physiologist,* Nothnagel, has published a work designed to show that the annular protuberance is the only nervous centre capable of producing epileptiform convulsions. In another paper, discussing the theory of spontaneous and provoked epilepsy, I shall demonstrate that this opinion is erroneous, and that other portions of the nerve centres, as well as the protuberance, can give rise to epileptic paroxysms.

In a second paper, I shall present the results I have obtained; first, upon the means of transmitting the irritation of the spinal nerves, or of the spinal cord to the encephalous, and to the skin of the epileptic zone, in order to produce there the alterations of nutrition, which occasion epilepsy; secondly, upon the condition of the sciatic and other nerves, which produce epilepsy; thirdly, upon the difference between many animals† and man, in respect to the production of epilepsy by irritation of certain nerves, or of the spinal centre; fourthly and finally, upon other different questions concerning the pathological physiology of epilepsy, and of the convulsive epileptiform movements.

* Virchow's *Archiv. fur Pathol. Anat.*, 1868, Vol. XLIV, Page 1.

† Epilepsy, with the existence of the epileptic zone, in cases of lesion of the sciatic nerve, has been found to exist not only in guinea pigs, but also in man, by Dr. G. Dieulafay, in the cat, by Mr. Trasbot, and in the rabbit, by my own experiments.

Proceedings of Societies.

AMERICAN ASSOCIATION OF MEDICAL EDITORS.

WASHINGTON, D.C., *May 2, 1870.*

Pursuant to adjournment, the "Association of American Medical Editors" met in the lecture room of Georgetown Medical College, at 10 o'clock A.M., on Monday, May 2d, 1870.

The Permanent Secretary and Secretary being absent, Dr. Bemiss stated that Dr. Mitchell had requested him to supply his place, if absent, but had not placed the books containing

the minutes and correspondence in his hands. At the President's instance, Dr. Bemiss took the Permanent Secretary's place, and read from a daily paper the proceedings of the last meeting. The minutes, as read, were corrected by the addition of Dr. Parvin's name, as one of the signers of the Articles of Association.

Dr. Yandell moved that the name of Dr. Charles A. Lee, of New York, be added, on account of long and distinguished services as a journalist. Carried unanimously.

Dr. Parvin, as Chairman of the Committee on Foreign Exchanges, reported verbally that he had found great difficulty in effecting arrangements for exchange with the editors of foreign journals, and suggested that editors resident upon the seaboard possessed advantages in such matters over those living as far inland as himself.

On motion of Dr. Bemiss, Dr. Parvin was continued, with power to add the names of such editors as he might select to aid him.

On motion of Dr. Parvin, Dr. Antisell was elected a member of this Association.

The Permanent Secretary failed to report in regard to instructions given him to correspond with Editors of Journals, informing them of the objects of this Association, and requesting their co-operation.

The Committee on Registering of Names of Physicians failed to report. The Committee on Revision failed to report. The Committee to arrange a general plan of communication between Medical Journals failed to report.

The names of Dr. John A. Murphy, of the Cincinnati *Lancet and Observer*, and of Drs. H. Carpenter and J. C. Grubbs, of the Oregon *Medical and Surgical Reporter*, were added to the list of those signing the Articles of Association.

On motion of Dr. Parvin, it was agreed to adjourn until 8½ P.M., to meet in this hall, and hear the President's address upon the history, progress, etc., of Medical Journalism.

Hall of Georgetown Medical College, *May 2, 8 P.M.*

The Association met pursuant to adjournment. The names

of Dr. W. T. Briggs, of the Nashville *Journal of Medicine and Surgery;* Dr. Horatio R. Storer, of the *Journal* of the Gynæ-logical Society of Boston; of Dr. E. Lloyd Howard, of the *Baltimore Medical Journal;* Dr. Ed. Warren, of *Medical Bulletin;* and Dr. B. F. Dawson, of the *American Journal of Obstetrics*, were added to those subscribing to the Articles of Association.

The Committee on Registry was continued to the next annual meeting.

The Association then proceeded to the annual Election of Officers.

On nomination by Dr. Parvin, Dr. H. R. Storer, of Boston, was elected President.

On nomination by Dr. Bemiss, Dr. Theophilus Parvin was elected Vice-President, and Dr. Howard, of Baltimore, Secretary. The President then read his address.

ADDRESS ON THE HISTORY, CONDITION, AND MEANS OF IMPROVEMENT OF MEDICAL JOURNALISM IN THE UNITED STATES. By N. S. DAVIS, M.D., President of the Association.

Gentlemen of the Association:—In strict obedience to the directions given me by the Association, at its organization in New Orleans, on May 5th, 1869, I rise to address you on this occasion. That the medical periodical press is at the present time one of the most important means of eliciting and diffusing medical knowledge, and consequently aiding in the education of the profession, but few thoughtful men will be inclined to deny. The first medical periodical published in America, of which we have any knowledge, was the *Medical Repository*, commenced in 1797, in the city of New York, and edited by Drs. Sam'l L. Mitchell, Edward Miller, and Elihu H. Smith.

It was a good sized quarterly journal, and its pages were enriched by the contributions of many of the ablest members of the profession at that date. Dr. Mitchell remained its principal editor through the first sixteen volumes, when it passed under the editorial management of Dr. James R. Manley, who, with his associates, maintained its reputation and usefulness until the end of the twenty-third volume.

In September, 1804, the *Medical Museum* was commenced in Philadelphia, edited by Dr. John Redman Coxe. In the same city, in November of the same year, the first number of the *Medical and Physical Journal* was issued, under the editorial management of Dr. Benj. Smith Barton.

The *Museum* was continued until 1813, while we lose all trace of the *Medical and Physical Journal* in 1808, until it is revived under the same name, and edited by Nathaniel Chapman, in 1820, and continued until 1827, when it seems to have been merged into the *American Journal of Medical Sciences*, which has continued until the present time. Another quarterly journal, called the *American Medical Recorder*, was commenced in Philadelphia, in 1818, and continued until 1829, when it appears to have been also merged into the *American Journal of Medical Sciences.*

A neatly illustrated quarterly journal, devoted to Medicine, Natural History, and Agriculture, called the *American Medical and Philosophical Register*, was published in New York, in 1810, and continued until 1814. The New England *Journal of Medicine, Surgery, and Collateral Branches*, was published in Boston, from 1812 to 1824. After 1820, new medical periodicals continued to be issued so rapidly, that I have been wholly unable to devote sufficient time to the subject to enable me to follow them in detail. With the aid of Dr. Toner, of Washington, I have been able to learn the names of about one hundred and twenty medical periodicals proper, which have been issued within the last fifty years, not including the annual transactions of Medical Societies.

Of these, one-half were discontinued within from six months to three years from the commencement of their publication. Of the remaining number, twenty did not continue beyond five years; and of more than thirty medical periodicals belonging legitimately to the profession, not including those of dentistry, now being published in the United States, only thirteen have been published more than a single decade.

With its present form and title, the *American Journal of Medical Sciences*, quarterly, has been published with commend-

able regularity since 1827, a period of forty-three years; and if it were proper to regard it as only a new name and form for the *Philadelphia Journal of Medical and Physical Sciences*, its origin could be dated back, under Dr. Chapman, to 1820, or even to 1804, under Dr. Benj. Smith Barton.

In 1823, Dr. J. V. C. Smith commenced the publication of the *Medical Intelligencer*, in Boston, which appears to have been changed to the *Boston Medical and Surgical Journal*, in 1827, and under that title, continued until the present time. It has been issued in both weekly and monthly form, to suit the wishes of its subscribers. Of the regular monthly and bi-monthly Journals, now in course of publication, the *Lancet and Observer*, at Cincinnati, dates its commencement, under the title of the *Western Lancet*, in 1841; the *St. Louis Medical and Surgical Journal*, in 1843; the *Chicago Medical Journal* and the *New Orleans Medical and Surgical Journal*, in 1844; and the *Buffalo Medical and Surgical Journal*, in 1845.

If this mere glance at the history of Medical Journalism in our country shows that a very large proportion of our periodicals have been unstable and evanescent, a similar inquiry in reference to those who have been connected with them in the capacity of editors, will show a still greater degree of instability. For instance, of the thirteen medical periodicals now existing, which were represented to have been published continuously more than a single decade, not more than seven have been under the same editorial management, during that short period of time. At the present writing, we count thirty-three medical periodicals belonging properly to the profession, in the United States. It is proper to state that we do not include in the list, Journals devoted especially to dentistry, the annual publications of Medical Societies, nor certain sheets designed as the advertising mediums of wholesale drug manufacturers. Of the thirty-three included in the list, six are published quarterly, twenty-two monthly, one semi-monthly, and four weekly. Four of the quarterlies and one of the monthlies are devoted to the cultivation of special departments, namely, the *American Journal of Insanity*, published at Utica, N. Y; the *Journal of*

Psycological Medicine, published at New York; the *American Journal of Obstetrics and Diseases of Women and Children*, and the *American Journal of Syphilography and Dermatology*, in the same city, are issued quarterly, and in good style. The *Journal of the Gynœcological Society*, of Boston, devoted to the Diseases of Women, is published monthly at Boston.

The two remaining quarterlies, the *American Journal of Medical Sciences*, at Philadelphia, and the *New Orleans Journal of Medicine*, with the twenty-two monthlies, one semi-monthly, and the four weeklies, are devoted to general medicine.

It is thus seen, that notwithstanding the numerous abortive attempts at Medical Journalism which has characterized our past history, we still have an abundant medical periodical literature, the publication of which is well distributed to the various parts of our country. In regard to the present character of our medical periodicals, I am constrained to speak with some hesitation. Twenty-two years of active, editorial labor in connection with the medical press, has certainly afforded me opportunity to become familiar with the subject.

I cannot agree with those, who, after excepting one or two favorite publications, unsparingly denounce all the rest as mere trash, or stupid copyists from one another. Neither can I join with those, at home or abroad, who indulge in unrestricted depreciative comparison of our periodicals with those of other countries.

And yet there are faults too obvious to be overlooked, and which this Association should make earnest efforts to correct. Nearly all our periodicals are modeled on the same plan. Each contains a department for original articles, and clinical and Society reports; another for selections from other periodicals; another for notices of new publications, and another for editorial and miscellaneous matter.

It is true that most of our periodicals admit into the first of these departments articles defective in style, and impoverished in ideas; cases so imperfectly reported as to be of no value; and reports from Hospitals and Societies, equally imperfect and valueless, except to fill space, and give publicity to the names

of the parties concerned. But a candid examination will show that matter of this character really occupies but a small part of the space devoted to original matter, in nine-tenths of our Medical Journals. In the department for selected matter, there is room for great improvement in a large proportion of our Journals. In some, it habitually occupies from half to two-thirds of the whole number of pages, and consequently gives the publication more the character of a reprint than anything else. In some cases, this is done by copying in full articles from other Journals, and in others, by making summaries or digests of the current matter in their exchanges.

The occasional copying of an essay or article of more than ordinary value, from one journal to another, always giving due credit for its source, and thereby giving it a wider circulation, is doubtless not only justifiable, but beneficial to the author and the whole profession. But as a general rule, the editors of medical journals should treat the original matter in their cotemporaries in the same manner as new publications. They should make such careful and well considered reviews of the important papers as would give their readers a correct idea of their nature and value, thereby enabling them to judge whether the original was worth their purchase or not. In a large proportion of our journals, the space devoted to new books has come to be filled with a simple announcement of the work, with a copy of the title-page, and sometimes the table of contents. The quarterlies, however, and a few of the monthlies, present in each number some very creditable reviews.

But, in our estimation, no part of our medical periodicals is more deficient than that which is expected to be filled by editorial matter proper. Some of them contain so little from the editorial pen, that their readers would hardly know that they were superintended by such a functionary, except as they see his name on the title page. Others present one or two pages headed "editorial," and filled with facetious paragraphs, personal slurs, news items, and attention to new advertisements. Only a very few out of the whole number occupy what editorial space they have with candid articles, calculated to enlighten

their readers on the many important questions connected with the sanitary, social, ethical, and educational interests of the profession. And I think it may be said with truth, that in none of our periodicals do these topics receive the editorial attention that their importance demands.

It is only through the periodical press that the great body of the profession can be reached. To sit in an editorial chair and occasionally growl at municipal authorities for neglecting sanitary measures; slur medical societies for imperfections in their action; indite facetious paragraphs about ethics; and ridicule the attempts of others to advance educational interests, is, to say the least, a very poor performance of the duties belonging to such a position.

Before leaving this branch of our subject, we feel constrained to allude to two other items which we have long regarded as detrimental to the character of a large part of our medical periodicals. One consists in a large amount of editorial puffing and pretension about the superior quality of their particular periodical, and the extraordinary arrangements they have just completed for making it the *very best* in the country.

The rule of ethics, founded on a just sense of propriety, forbids an ordinary practitioner from boasting of his success in practice, or of the extraordinary character of his remedies. And we cannot see why it is not equally in bad taste for the editor or publisher of a medical journal to indulge in a similar strain of bombast about his own work.

The other relates to the kind and number of advertisements that are appended to each issue. To the insertion of a list of new medical books, new surgical instruments and appliances, or the simple business card of a physician, druggist, or medical institution, we do not object. But to take up a periodical, professedly devoted to the interests of science and a learned profession, and find one-third or one-half of its entire bulk made up of advertisements of all kinds, from Fougera's pills to wooden tubs and sewing machines, is equivalent to receiving the impression that the publisher, having embarked in the advertising business, had employed an editor to furnish just enough professional

matter to serve the same purpose that the tail does to a kite.

Having trespassed so much on your time and patience already, I will hasten to a brief consideration of the question, how can medical journalism in our country be improved? To answer this question satisfactorily, involves a correct appreciation of the causes of its past and present instability and imperfection. These have been very generally attributed to the excessive number published, and the consequent inadequate pecuniary return for the labor required. And the remark is often made, that if our medical periodicals were restricted in number to such as are issued from a few of the great centres of population, where their editors have access to the abundant materials afforded by Hospitals and Medical Societies, they would command a sufficient number of readers and supporters to give them permanence and excellence. It is very doubtful whether this view can be verified, either by observed facts, or the application of well established mental laws.

If it were true that the discontinuance of one-half of the medical periodicals now in the course of publication would result in transferring all the patronage they have received to the remaining half; or if the patronage bestowed on each new journal was simply so much taken from the journals previously existing, then, indeed, would the number published furnish a direct index of the amount of patronage each could expect to receive. But observation has long since satisfied us that the matter is governed by no such simple rule. On the contrary, every new journal started enlists a circle of friends and patrons, a large part of whom were taking no periodical before, and contributing to none.

And if it so happens that the circle formed is too restricted and the enterprise fails, it will have created in many of its patrons the habit of reading and writing, which will remain and be turned to the benefit of some other periodical. It is a law of the human mind that the more its faculties are exercised, either in the acquisition or communication of knowledge, the more imperious are its demands for an additional supply. The practitioner who has read or contributed to one medical journal, is

far more likely to add another to the list, than he is to discontinue the first. A full examination will show that the unstable and imperfect character of many of our medical periodicals is neither owing to their number, nor to the fact that the places of their publication are widely diffused over our country. There are practitioners enough in the United States, if each subscribed for only one periodical, to afford every medical journal, now in course of publication, a fair support.

And the publication of these periodicals, in the different and distant sections of our country, is of great advantage in developing a knowledge of the climate, topography, and diseases of their respective regions, as well as stimulating a taste for reading and writing in the local profession around them. Our experience and observations have satisfied us that most of the faults connected with American medical journalism are traceable to two sources, namely, the defective education of the profession, and the imperfect arrangements of those who undertake the editorial supervision and publication of the respective journals.

It is perfectly well known that a large part of those who enter upon the practice of medicine, under our system of medical education, are wholly destitute of that general education and mental discipline which is essential to the formation of a taste for reading and writing, Without an adequate knowledge of the elementary branches of common education, and without the slightest acquaintance with any of the sciences, they have performed the task of reading the text-books in medicine, much as the apprentice performs his task in a mechanic's shop; they have attended the heterogeneous courses of Lectures, in some Medical College, during which they have made imperfect notes of as many formulas or prescriptions for particular diseases as they could, and they enter upon practice with full confidence that these formulas and their text-books furnish all the literature necessary for the rest of their lives. They have no taste for reading, and not the slightest appreciation of the value of medical periodicals.

And if here and there one of this class is induced to patron-

ize a journal, or furnish a contribution, the letter is written in such style, that the editor must either throw it into his basket of waste paper, so far re-write it, that the author would not recognize it as his, or let it appear in such condition as to disgrace the pages of his journal. It is directly to this imperfect education of the profession, that medical journalism owes both its limited patronage and the literary imperfections which have so frequently subjected it to disparaging criticism. The physician whose mind has been early disciplined by study, and fed with the bread of science, will be just as much lost without one or more medical periodicals, as is the clergyman without his church paper, or the politician without his party organ.

The second efficient cause of instability in medical journals was stated to be, the imperfect arrangements of those who undertake their editorial supervision and publication. The history of a large proportion of them may be briefly stated as follows:

The Faculty of a College wants an *organ;* or one or two young men, laudably ambitious, think that an editorial position would both give them notoriety and access to the current medical literature; and in either case, a bookseller, or publisher, or some other business firm, who can be made to think that the proposed journal would be a profitable medium for advertising his own wares, and that enough additional advertisements can be obtained to pay a large part of the expense of publication, is sought out, a bargain made, a prospectus issued, soon followed by the first number of the work. The members of the college faculty whose names have been put on as editors, or the ambitious young men whose names occupy that position, have provided no reliable corps of reporters to furnish what can be gleaned from the Hospitals and Medical Societies, if any such exist in the neighborhood; they have no resources for original matter, except the voluntary contributions of members of the profession, and what is equally bad, they have no positive views of medical polity, medical education, or sanitary science, with which to give their own editorial space a positiveness and individuality calculated to attract attention and command respect.

By personal solicitation, they succeed in obtaining contributions enough from their friends to make a respectable show of original matter for the first few numbers, but this resource is soon exhausted, and they are obliged to increase their selections from other journals, to fill up the required number of pages; the fear of offending some interest, whose patronage is needed, deters from doing more in the editorial department than to write commendatory notices of books, or call attention to some new advertisement, until heartily tired of the enterprise, they discover that they have not *sufficient time* to devote to the work, and either let it die, or induce some new man to undertake it, and go through the same process.

In other instances, where the editor holds out more tenaciously, notwithstanding his scanty supply of material, the publisher, after one or two years, discovers that the benefit he derives from the advertising medium is not equal to the deficiency of receipts as compared with the expenditures, and he withdraws, leaving another printer to be found, who, in turn, arrives at the same conclusion in a few months. If the foregoing views are correct, in regard to the causes of the insufficient patronage, instability and imperfections of medical periodicals, in this country, the remedies are obvious. Nothing short of a higher standard of education, both preliminary and medical, on the part of those who enter the profession and a more correct appreciation of the arrangements and qualifications required for maintaining a creditable medical journal, will remedy the evils. The first would multiply the number of readers and ensure the proper merit in their contributions, while the second would speedily arrest the tendency to make inconsiderate efforts to establish new journals.

Towards the accomplishment of these purposes, this Association has it in its power to contribute much. Prominent among the declared objects of this Association, as set forth in the act of its organization, are the cultivation of friendly relations and mutual assistance, *concert* of action in support of improvements in the present system of medical education, and of a higher standard of preliminary attainments for those who pro-

pose to enter upon the study of medicine, and in promoting generally the value and efficiency of our periodical medical literature.

If all those who occupy the responsible position of editors of medical periodicals in this country, will co-operate, by becoming members of this organization, and prove true to its principles and purposes, it can wield a more direct and powerful influence for good, both in elevating the character of American medical journalism, and in increasing the honor and usefulness of the whole profession, than any other organization in existence. You who control the medical press hold in your hands the main avenues through which the great mass of the professional mind can be reached and influenced. You have the means and the power, if you choose to use them, to mould the public sentiment of the profession and concentrate it on the accomplishment of any desirable object, with an irresistable force.

Dr. Theophilus Parvin, at whose suggestion this Association was formed last year, stated, as one of the reasons for such action, that the editors of the medical periodical press were not exerting that positive influence on the medical public which belonged to their position, simply because a large part of them maintained a studied silence on all the important topics to which we have alluded, while others break their silence only by an occasional facetious remark. Is it not time, gentlemen, that this apathy, this studied silence, on topics of so much importance, was abandoned? Is its continuance compatible with a just appreciation of the importance of our position and of our individual responsibility? If we have assumed positions that give us the power to wield an important influence for good, are we not justly responsible for the enlightened and efficient exercise of that power? These are questions that must be answered to our own consciences.

Then, let us perpetuate and extend our organization. Let each member honestly cultivate friendly relations with every other. Let us take concerted action, by out-spoken, candid, full discussion of the vital questions involved in the elevation of the standard of medical education, until the great evils univer-

sally acknowledged to exist are removed, and the profession in our country rests on an educational basis commensurate with the extent of its science and the nobleness of its art. But in all our work, let us remember that personalities are not arguments; that to pull down a rival is not equivalent to building oneself up; and that it takes far less time to inflict a wound than to heal it. Finally, my brethren of the editorial fraternity, let us justly appreciate both the influence and the responsibility which attaches to the position we occupy, and with honest, earnest purpose wield the one and respond to the other, in such a manner as will advance the true interests of our profession, because, in so doing, we shall most efficiently promote the interests of humanity.

On motion of Dr. Storer, the President was voted the thanks of the Association for his address, and its publication was requested, in any mode which he regarded as most practicable and politic.

The President announced that he would print the whole of these proceedings, including the address, and send advance sheets to the various medical journals of the country.

Dr. N. S. Davis was appointed Committee on Revision, to report at the next meeting.

On motion of Dr. Bemiss, Dr. J. M. Toner, of D.C., was requested to read, at the next annual meeting, a paper upon the "Curiosities of the Literature of American Medical Journals."

On motion of Dr. Bowling, it was agreed by the Editors present that each should furnish Dr. Toner his Journal for the coming year, free of charge, that he might be enabled to carry the wishes of the Association into effect, without too great presonal expenditure.

On motion, adjourned to meet on the Monday preceding the meeting of the American Medical Association for 1871, and at the same place.

S. M. BEMISS, *Acting Secretary.*

INDIANA STATE MEDICAL SOCIETY.

This organization commenced its twentieth annual session in Indianapolis, in the lecture room of the Indiana Medical College, corner of Delaware and Court Streets, at 9 o'clock, May 17, 1870.

Dr. Gho. Sutton, of Aurora, took the Chair, and called the Society to order.

Dr. G. V. Woolen, of Indianapolis, the worthy Secretary for several years past, read the following list of officers, members, and delegates who were present:

OFFICERS.

Geo. Sutton, Aurora, President.

G. W. Woolen, M.D., Indianapolis, Secretary.

W. J. Elstun, M.D., Indianapolis, Assistant-Secretary.

PERMANENT MEMBERS.

Dr. C. E. Wright, J. P. Avery, D. H. Oliver, W. J. Elstun, G. W. Woolen, L. D. Waterman, F. S. Newcomer, J. K. Bigelow, W. B. Fletcher, G. W. Mears, J. M. Kitchen, J. H. Woodburn, T. B. Harvey, O. Everts, J. A. Comingor, R. N. Todd, Theo. Parvin, Indianapolis; John Arnold, W. W. Arnold, M. Sexton, John Moffet, Rushville; N. P. Howard, Greenfield; J. W. Powell, Rockfield; Benj. Newland, Bedford; V. Kersey, D. Clarke, J. F. Hibberd, J. R. Weist, R. E. Houghton, Richmond; F. W. Beard, Harrodsburg; F. J. C. Rawlins, A. C. Dillon, N. H. Canady, Knightstown; W. Hobbs, Carthage; F. J. Van Vorhis, Stockwell; J. I. Rooker, Castleton; H. D. Wood, Angola; H. V. Passage, J. H. Helm, Peru; R. G. Graydon, Southport; A. J. McLeod, Burnsville; W. Scott, W. K. Mavity, J. M. Darnell, Kokomo; J. A. Nesbit, Allisonville; W. G. McFadden, London; L. Kern, L. C. Miller, Alto; M. H. Bounel, Lebanon; N. D. Gaddy, Vernon; T. H. Lane, Northfield; J. B. Cox, Frankfort; J. H. Stuart, Spiceland; S. C. Thomas, Milroy; M. H. Harding, Lawrenceburg; Wm. Lomax, J. R. Shively, Marion; J. Pennington, J. E. Swiney, Milton; Wm. Davidson, Madison; J. M. Gray, Noblesville;

James Thompson, Harrison, Ohio; I. N. Parr, Zionville; Irving Sunman, Versailles; I. M. Rosenthal, Fort Wayne; E. H. Crippen, Moscow; J. V. Hoss, Tetersburg.

DELEGATES.

Dr. S. M. Martin, Greenfield; E. N. Tull, Ogden; Edwin Cain, Greensboro; S. A. Troy, Eden; A. B. Casterline, Beechgrove; G. W. H. Kemper, W. S. Andrew, Muncie; I. C. Walker, W. P. Warring, Richmond; H. G. Todd, Danville; W. F. Harvey, Plainfield; C. Robins, Brooklyn; Samuel Schofield, Hamilton; A. P. Mitten, Columbia City; A. W. Davis, Indianapolis; B. S. Woodworth, Fort Wayne.

Permanent members reported:

S. E. Munford, Princeton; E. Mendenhall, Zionsville; W. G. Moore, Indianapolis; D. H. Harding, Batesville.

EVENING SESSION.

Dr. L. D. Waterman, of Indianapolis, moved that the annual address of the President be received this evening at 8 o'clock, and be made the special order for that hour. The motion was agreed to.

CREDENTIALS.—Drs. V. Kersey, of Richmond, W. H. Arnold, of Rushville, and L. D. Waterman, of Indianapolis, were appointed a standing committee of inquiry as to the qualifications of applicants for membership, and upon their favorable report to the Society, a vote of two-thirds of the members present shall be necessary for the election of each one thus recommended.

SECRETARY'S REPORT.—Dr. Woolen, the Secretary, laid before the Society, his annual report in writing. On motion, Drs. Waterman, Johnson, and A. B. Casterline, were appointed a committee to consider and report on the suggestions contained in it.

FIVE MINUTE RULE.—Dr. W. Hobbs, of Carthage, submitted a resolution limiting remarks on any one subject to five minutes, and debarring any member from speaking more than once on the same subject till other members had been heard, unless by unanimous consent.

Dr. J. F. Hibberd, of Richmond, moved to lay it on the table. Agreed to.

Essays.—The President announced the order for reports from committees appointed last year to prepare papers on special subjects.

Dr. J. H. Woodburn, of Indianapolis, in reply to a call for his report, stated that as the Committee on the Presentation of the Symptoms and Treatment of Incipient Insanity, he had endeavored, but in vain, to condense the subject in one paper, consequently he asked to be excused.

Dr. G. W. Mears, of Indianapolis, reported that the committee on the Most Effective Remedies for Arresting Uterine Hemorrhage, will submit a paper at the proper time.

Dr. M. Sexton, of Rushville, announced no report on Tetanus.

Dr. G. V. Woolen, that he would submit a report on Syphilis.

Dr. F. J. Van Vorhis, Stockwell, an essay on the Psychical Influence upon the Organization of Structures, which he proposed to substitute for the subject assigned to him last year, namely: Mental Influences in Disease.

Voluntary Essays.—The President then called for voluntary papers, and the following were reported ready for presentation when called for:

By Dr. W. Hobbs, Carthage, on Surgical Operations in the Removal of Bones of the Skull.

By Dr. C. E. Wright, Indianapolis, on Diseases of the Ear.

By Dr. L. D. Waterman, Indianapolis, on Relapsing Fever.

By R. E. Houghton, Richmond, on Dislocations of the Hip.

By Dr. H. V. Lassage, Peru, on Reduction of Dislocations of the Hip-joint. Also,

By Dr. V. Kersey, Richmond, (in pursuance of a direction by a vote of the Wayne County Medical Society) on the condition of the Medical Staff in the United States Navy.

Public Charities.—Dr. J. R. Weist, Richmond, chairman of the committee appointed last year to consider the propriety of petitioning the State Legislature to constitute and organize a Board of Public Charities, announced that he had a report.

Credentials.—The committee on qualifications of members were duly authorized and empowered to act as a committee on credentials.

Society Seal.—On motion, by Dr. J. I. Rooker, Castleton, a resolution was adopted authorizing the publishing committee and the Secretary, to purchase an appropriate seal for the use of this Society.

Delinquent Members.—Dr. W. B. Fletcher, Indianapolis, submitted a resolution declaring that the names of all members of this Society, who shall fail to pay the annual assessment for three years in succession, after due notification by the Secretary, shall be dropped from the roll.

Dr. Woodburn moved to amend, by making the resolution extend three years beyond the present year. Rejected.

The resolution was then adopted by a rising vote.

In Memory of Dr. J. S. Bobbs.—The Jay County Medical Society transmitted, through Secretary Woolen, resolutions of respect to the memory of Dr. J. S. Bobbs, Indianapolis.

On motion, they were laid on the table for the present.

Dr. Hobbs said: Mr. President—Dr. Bobbs for years was a member of this Society; was once in its chair as our President, and he occupied a prominent position as a medical teacher in this State. I, therefore, think it proper for this Society to do more then pass formal resolutions on this occasion. It occurs to me as proper.

I have had this on my mind without the knowledge that these resolutions would be presented. If in order, I offer the following:—

Resolved, That a committee of five be appointed to prepare a paper giving a short biographical sketch of the late Dr. J. S. Bobbs, embracing, also, an account of his professional character and labors, and resolutions of our respect and esteem for him, and present the same to the Secretary of this body, to be embodied in the published transactions.

The resolution was adopted.

Public Charities.—On motion, Dr. Weist read his written report referred to and described above. It embodies a resolution that a committee be appointed by this Society, to petition the State Legislature to enact a law providing for a State Board of Public Charities, similar to those now existing in Massachu-

setts, Ohio, Illinois, and other States, and to take such other steps as they may deem necessary to secure such legislation.

Dr. Woodburn moved that the report be referred to the Committee on Publication, with a view to its incorporation in the published proceedings of this meeting.

The motion was agreed to.

On motion by Dr. Waterman, the President was authorized to appoint five members who shall constitute the committee contemplated in the resolves embodied in the report of the Committee on Public Charities.

Navy Surgeons.—Dr. Kersey, presented the paper on the condition of the Medical Staff in the United States Navy. It refers to the case of Dr. Greene, a Passed-Assistant Surgeon in the U.S. Navy, who was ordered by the Captain to strike from the sick list the name of a seaman, and because he refused, he was court-martialed and reprimanded. He recommended the adoption of a resolution that medical men will keep out of the naval service until guaranteed better treatment.

The resolution embraced in the paper was adopted, and the paper as a whole was referred to the committee for publication in the Society's transactions.

On motion of Dr. R. N. Todd, Indianapolis, a copy was ordered to be transmitted to the American Medical Society, and to the Surgeon-General.

The Society then took a recess for dinner.

Afternoon Session.

The President resumed the chair at 2 o'clock P.M.

Thanks.—A vote of thanks was passed to the Faculty of the Indianapolis Medical College, for the use of the Principal Lecture Room, in which the sessions of this Society are being held.

Nephritis.—A note, as a report, on the Pathognomic Signs of Nephritis, was read by Dr. J. H. Comingor, of Indianapolis, stating he knew none but what were in the text-books.

Dr. G. W. Mears, of the same city, submitted a well prepared essay on Puerperal Hemorrhage, which was discussed by Drs. Hibberd, Woolen, Lomax, Todd, Wishard. Passage, Harvey, Rooker, Clark, Pennington, Waterman, and Mears.

Professional Advertising.—Dr. J. Thompson, of Harrison, Ohio, presented an argument against the action of the American Medical Association, on the subject of "specialists'" advertising.

A motion being made to refer this paper, Dr. Woodburn would not sit still and see the code of ethics stabbed in this way, without raising his voice in the negative.

Thereupon the motion was so changed as to make this paper the special order for to-morrow afternoon, at two o'clock.

The motion, as modified, was agreed to.

Dr. F. J. Van Vorhis, then read a paper on the Psychical Influence upon the Organization of Structures.

On motion by Dr. Hibberd, it was laid on the table till after the President's address shall be disposed of this evening.

And then came recess till eight o'clock P.M.

Night Session.

Dr. J. F. Hibberd was called to the Chair, and—

The President, Dr. George Sutton, read his address on "Man's Power over Nature; the Science of Medicine as a Means by which He Aids and Controls the Laws of Life."

It was referred to the Committee on Publication, and a vote of thanks was tendered the President for his able and philosophical address.

Dr. Van Vorhis' Paper.—Dr. Van Vorhis' paper, read this afternoon, titled "The Psychical Influence upon the Organization of Structures," having been made the special order for this time in the session, it was taken up and discussed Drs. Kersey, Lomax, Stuart, Rosenthal, Elstun, and Van Vorhis.

The paper was then referred to the Publishing Committee.

Committee on Nominations.—On motion, the President appointed a Committee of five, to nominate officers for the ensuing year, *viz.:* Drs. Clark, Waterman, Moffet, Wishard, and Passage. And then the Society adjourned till to-morrow morning, at eight o'clock.

Second Day.

The President, Dr. Sutton, took the Chair, at 9 o'clock A.M.

The Committee on Credentials presented favorable reports, which were concurred in.

Publication of the Constitution.—Dr. Hibberd offered the following:

Resolved, That the Secretaries of this Society be requested to incorporate into the Constitution and By-Laws all the amendments and alterations that have been made since their last publication, including those of this year, and publish the same in the volume of transactions for the current year.

The resolution was adopted.

Amendment to the By-laws.—On motion by Dr. Hibberd, the By-Laws were amended by adding a new section as follows;

Section 6. Every person claiming to be a member of this Society shall, before he be allowed to take part in the proceedings, give his name to the Secretary and pay two dollars.

Practitioner's License.—Secretary Woolen laid before the Society a preamble and series of resolutions adopted by the American Medical Association, at its session in New Orleans, in May, 1869. One of the resolutions requests each State Medical Society to appoint annually one or more Boards of Examiners, whose duty it shall be to meet at suitable times and places, for the examination of all persons, whether graduates of college or not, who propose to enter upon the practice of medicine in their respective States, except such as have been previously examined and licensed by a similar Board, in some other State.

On motion, the President was authorized to appoint a select Committee of three, whose duty it shall be to consider these resolutions and report thereon, if deemed advisable, this afternoon.

The President, thereupon, made Drs. J. F. Hibberd, R. N. Todd, and T. Parvin said Committee.

The President's Address.—On motion, Drs. Hobbs, Harvey, and Passage were named as a Select Committee, to which was referred the President's Annual Address, with instructions to report thereon this afternoon.

Essay on Syphilis.—Dr. Woolen, being called upon by the President, proceeded to read his paper on Syphilis.

On motion by Dr. Clark, it was referred to the Committee on Publication.

Delegate from Ohio.—Dr. Passage introduced Dr. S. S. Gray, a delegate from the Ohio State Medical Society, whose presence was acknowledged by applause.

Caries of the Skull.—Dr. Hobbs' report of an operation for syphilitic caries of the skull being called for, was now read. It gave rise to some little running discussion.

On motion by Dr. Waterman, this paper was laid on the table, and, together with Dr. Woolen's essay on Syphilis, were made the special order for 5 o'clock this afternoon.

Election of Officers.—Dr. Clark, from the Committee on Nomination of Officers for the ensuing year, made the following report:

President—Dr. R. N. Todd, of Indianapolis.

Vice-President—Dr. I. N. Rosenthal, of Fort Wayne.

Secretary—Dr. G. V. Woolen, of Indianapolis.

Assistant-Secretary—Dr. W. J. Elstun, of Indianapolis.

Treasurer—Dr. James H. Woodburn, of Indianapolis.

Librarian—Dr. A. W. Davis, of Indianapolis.

The report was concurred in.

Dislocation of the Hip-Joint.—Dr. Passage being called upon, then read his paper on "Reduction of Dislocation of the Hip-Joint, of eleven days' standing."

Dr. R. E. Haughton, of Richmond, presented a report upon the dislocation of the hip; some of the causes which interfere with reduction; principles of the Flexion method, etc., illustrated by specimens, and drawings on the blackboard.

When he had concluded—

On motion of Dr. Waterman, the Society took a recess till 2 o'clock P.M.

Afternoon Session.

President Sutton, being engaged upon the appointment of Committees, at 2 oclock, on motion, Dr. Hibberd took the chair, and called the Society to order.

Professional Advertising.—On motion of Dr. Woodburn, the special order for this hour, Dr. Jas. Thompson's paper, concerning the publication of cards, circulars, or advertisements by specialists, was referred to the Committee on Ethics.

Dislocation of Hip-Joints.—The papers pending at the hour of recess for dinner were referred to the Committee on Publication, on motion of Dr. Harvey.

Diseases of the Ear.—Dr. C. E. Wright, of Indianapolis, being called upon for his paper on Purulent Aural Catarrh, came forward and read it. Referred to the Committee on Publication.

Dr. Rooker offered the following resolution, which was adopted:

Resolved, That this Society recommend the profession of the State to subscribe for, and contribute papers to, the *Indiana Medical Journal.*

The President *pro tem.*, in behalf of President Sutton, announced the Committee to prepare and submit to the State Legislature a petition for the enactment of a law providing for a State Board of Public Charities, namely: Drs. Ryland T. Brown, Patrick H. Jameson, James H. Woodburn, Orpheus Evarts, and James F. Hibberd.

Dr. Lomax, in behalf of Treasurer Lyons, unavoidably absent, submitted the Treasurer's Annual Report, which was referred to the Committee on Finance.

Dr. E. Mendenhall, of Zionville, then read his paper, titled "The Utility of Ergot in Facilitating Labor."

On motion, this paper was referred to the Committee on Publication.

Financial.—Dr. Harding, from the Committee on Finance, reported the accounts of the Secretary and Treasurer correct, and recommended an assessment of $2 per member, to meet current expenses.

The report was concurred in.

Thanks to the Daily Papers.—Dr. Thad. M. Stevens offered the following:

Resolved, That the thanks of this Society are due, and are

hereby tendered to, the daily press of this city, and especially to the *Journal* and *Sentinel*, for their more than ordinary accurate and full reports of our proceedings.

The resolution was adopted *nem. con.*

Practitioner's License.—Dr. Hibberd, from the Special Committee thereon, returned the preamble and resolutions of the American Medical Association, touching the admission of new men into the ranks of practicing physicians, reported it clearly impossible to find time for the deliberate consideration of the subject, in the few remaining hours of this meeting, and therefore the Committee recommend the reference of the resolutions to a Special Committee, for digestion, with instructions to report next year.

On motion, the report was referred back to the same Committee, with instructions to consider the subject and report at the next annual meeting.

The President's Annual Address.—Dr. Hobbs, from the Special Committee on the President's Address, submitted a report, recommending that Dr. George Sutton himself be requested to report a paper to the next year's meeting on "The Nature, Pathology, and Treatment of Milk Sickness, and its relation to what is called 'Trembles,' in Inferior Animals."

Also, that some one be appointed to report at the same time Biographical Sketches of Physicians who have died in the State. Dr. J. H. Stuart, Spiceland, was appointed.

Also, some one to prepare a report on the changes, if any, in the types, which the diseases of the State are undergoing.

The Chair appointed Dr. G. W. Mears, Indianapolis.

Also, that a Committee of one from each Congressional District be appointed to collect and collate facts relating to the health of their different localities, medical statistics, etc.

Subsequently the Society selected the said Committee, *viz.:*

1st District—Dr. Daniel Morgan, Evansville.
2d District—Dr. Wm. Clapp, New-Albany.
3d District—Dr. A. G. Boynton, Elizabethtown.
4th District—Dr. S. M. Martin, Greenfield.
5th District—Dr. Henry G. Todd, Danville.

6th District—Dr. T. H. Rice.
7th District—Dr. J. H. Adams.
8th District—Dr. W. K. Mavity, Kokomo.
9th District—Dr. N. H. Kennedy, Knightstown.
10th District—Dr. A. D. Wood.
11th District—Dr. Lewis Humphreys, South Bend.

CERTIFICATES OF MEMBERSHIP. — Dr. Kersey, from the Special Committee on the Secretary's report, recommended the granting of certificates, signed by the President and Secretary, and sealed with the seal of the Society, to any member in good standing about to remove from the State.

The report was concurred in.

PERMANENT MEMBERS. — The following additional names were recorded. R. C. Moore, Belleville; C. N. Blount, Tipton; John Rea, Newcastle; George Sutton, Aurora; I. J. Adams, North Salem; Wood Cook, Pendleton; J. M. Wishard, T. B. Noble, Greenwood; B. Ward, P. H. Jameson, Indianapolis; W. Lockhart, W. J. Hoadley, Danville; M. V. B. Newcomer, Tipton.

DELEGATES.—H. M. Minesinger, Sulphur Springs; J. W. Badger, Fremont; T. C. Rich, Indianapolis; J. J. Saville, Kokomo; G. M. Adams. Frankfort; G. W. Leutz, Lawrenceburg.

THANKS TO DR. KITCHEN.—Dr. Harvey offered the following resolution:

Resolved, That this Society accept the offer of Dr. J. M. Kitchen to furnish the complete files of the transactions; and we hereby tender our thanks to him for the same, and instruct the Librarian to have the same preserved in the Library.

The resolution was adopted.

LIST OF DELEGATES.—Dr. Clark, from the Committee on Nominations, recommended as delegates to the American Medical Association, Drs. V. Kersey, Thad. M. Stevens, G. Sutton, M. H. Harding, W. Scott, W. K. Mavity, J. P. Avery, J. F. Hibberd, J. R. Weist, A. P. Mitten, H. V. Passage, B. Newland, J. I. Rooker, W. Lockhart, J. C. Walker, S. C. Tomlinson, N. D. Gaddy.

The report was concurred in.

Subsequently, on motion of Dr. Clark, it was

Ordered, That any gentleman may become a delegate by reporting his name to the Secretary, previous to the publication of the transactions of this meeting in book form.

On motion by Dr. Elstun, it was

Resolved, That any member of this Society who desires to attend the Ohio State Medical Society be furnished a certificate as delegate.

The Next Annual Meeting.—The President *pro tem.* suggested that as the American Medical Association meets next year in San Francisco, California, on the 2d Tuesday in May, Delegates from this Society could not return to our meeting unless the time be changed.

Thereupon, Dr. Passage moved that the next meeting of this Society be held on the 2d Tuesday in April next.

Dr. Weist moved to amend by fixing the time for the 2d Tuesday in June, 1871, at 9 o'clock A. M.

The amendment was agreed to.

The motion as amended was then adopted.

Relapsing Fever.—Upon a call from the President *pro tempore*,

Dr. Waterman read his voluntary paper on Relapsing Fever, and requested that it should not be referred for publication, as it was prepared in great haste, because he expected a dearth of reports this year.

It gave rise to a brief discussion, in which Drs. Clark, Van Vorhis, Rooker, and others took part, in which regrets were expressed that Dr. Waterman had not put his report in such shape as that he would consent to its publication in the transactions of the Society.

On motion by Dr. Kersey, the thanks of the Society were tendered Dr. Waterman for his paper.

Standing Committees.—The President announced the following standing committees for the ensuing year:

On Prize Essays—Drs. T. Parvin, G. W. Mears, and D. Clark.

On Ethics—Drs. T. B. Harvey, F. H. Woodburn, James Thompson, J. M. Kitchen, and C. N. Blount.

On Arrangements—Drs. L. D. Waterman, A. W. Davis, W. W. Foley, J. A. Comingor and W. G. Moore.

On Finance—Drs. W. Lockhart, F. J. Van Vorhis, H. V. Passage, W. K. Mavity, and J. Moffet.

On Publication—Drs. G. V. Woolen, W. J. Elstun, L. D. Waterman, C. E. Wright, and W. B. Fletcher.

Special Essayists.—Were also announced, to wit:

Dr. M. H. Harding, Lawrenceburg, on Hydrate of Chloral.

Dr. J. F. Hibbard, Richmond, on the Progress of Medicine.

Dr. W. B. Fletcher, Indianapolis, on the formation of the Placenta.

Dr. John Moffet, Rushville, on such subject as he may choose.

Dr. Dugan Clark, Richmond, on Chloroform in Obstretrics.

Dr. W. Hobbs, Carthage, on Alcoholic Stimulants in the Treatment of Disease.

Dr. C. E. Wright, Indianapolis, on Diseases of the Eye.

Dr. J. R. Weist, Richmond, on a subject to be selected.

Dr. W. Lomax, Marion, to select his own subject.

Dr. S. C. Thomas, Milroy, on Hemorrhage in Typhoid Fever.

Dr. W. J. Elstun, on Therapeutics of Bromide of Potassium.

Dr. B. S. Woodworth, Fort Wayne, to select his own subject.

Dr. Theo. Parvin, Indianapolis, on Fibrous Tumors of the Uterus.

Dr. T. B. Harvey, Indianapolis, on Laceration of the Perineum.

Dr. C. N. Blount, Tipton, subject to be selected.

Dr. V. Kersey, Richmond, on Inflammation.

Syphilis.—The President *pro tem.* announced the subject matter (the two papers on Syphilis) made the special order for discussion at five o'clock.

Drs. Woolen, Harding, Seville, Hobbs, Waterman, and Haughton made remarks on the subject.

The paper of Dr. Hobbs was referred to the Committee on Publishing. Dr. Woolen's already having been referred.

Thanks to the President.—Dr. Waterman moved a vote of thanks to our worthy President for discharging his duties so acceptably during the present session.

The motion was agreed to.

President Sutton acknowledged the compliment in a few pertinent remarks.

The Society adjourned till the second Tuesday of June, 1871.

GEORGE SUTTON, *President.*

G. V. WOOLEN, *Secretary.*

THE CHICAGO MEDICAL SOCIETY.

This Society holds its regular meetings during the summer, on the first and third Monday of every month.

The subject for discussion, on June 20th, was the constipation of infants, its causes and medical treatment. Drs. Quine, Paoli, Fitch, Davis, and Gray expressed their views. They all condemned the use of strong purgatives and injections; the former as liable to increase the difficulty, and the latter to distend and weaken the muscular fibres.

Dr. Paoli had used a wax bougie, to excite the peristaltic action of the bowel, and recommended suppositories of tallow or soap, for the same purpose. Dr. Fitch had found much benefit from electricity, applied to the back and along the course of the colon, also from a prescription containing—

℞. Tinct. Aloes,
Syrup Ipecac,
Fl. Ex. Rhubarb.

Dr. Davis believed much of the difficulty arose from a lack of the peristaltic action of the bowel, and to stimulate their fibres, often used with a beneficial effect minute doses of tinct· nux vomica, perhaps, 1 drop; syrup ipecac, perhaps, 5 drops; and might add, sometimes, with benefit, syrup rhubarb or tinct. belladonna.

Dr. Gray thought hydrastin and nux vomica would succeed well.

Dr. Holmes presented some interesting pathological specimens from the eye, one a melanotic, and another of which, he thinks, there are but six similar on record—a non-pulsating

erectile tumor. This being removed, the eye resumed its original position in the orbit.

The Clinic.

MERCY HOSPITAL.

THURSDAY, *June 10th, 1870.*

DROPSY.—Prof. Davis presented to the class an elderly man, robust, and in apparently good health. He complains of swelling in his face, some pain in his back and head, and of being easily tired during exertion. His legs are white, bloodless, hard and doughy, pitting readily upon pressure. The swelling commenced in the feet and ankles, about three months ago, and was gradually extending up the legs, while his strength was gradually declining. Position materially affects the swelling; the most dependent parts, whether face, back, hands, or legs, becoming œdematous. Hence, this is called general dropsy, to distinguish it from circumscribed, as when the fluid is contained in a cavity, or some locality exclusively.

If the fluid was contained in the cavity of the peritoneum, pericardium, pleura, ventricles of the brain, under the arachnoid, or in the air-cells of the lungs, or if it were confined to one limb, on account of some obstruction to the circulation, it would be local dropsy. When general dropsy affects the system, it must depend upon one of three causes, *viz.:* disease of the heart, kidney, or anæmia. This patient has had no malarial poison or hemorrhages, to affect and diminish the red corpuscles, and leave the blood in a watery condition. The history and appearance of the patient verify this conclusion. There is no history of trouble with the heart, neither does the stethoscope reveal any. An examination of the urine by the usual tests showed an abundance of albumen. The Prof. very carefully showed the tests to be used and the errors to be avoided. The facts here stated show that the dropsy, in this case, depends on disease of the kidneys; but they do not indicate clearly the nature of such disease. For the mere exist-

ence of albumen in the urine, even in large proportion, does not determine fully the nature of the morbid condition of the kidneys. It simply shows that something has altered the relation between the motion of the blood and the secreting cells of the kidney. Whether that alteration depends on temporary congestion, inflammatory irritation, or glandular degeneration must be determined by the history of the case, aided by microscopic examination of the urine. If the dropsical symptoms have come on rather suddenly, preceded by pain in the back, feverishness, and scanty urine, it may be regarded as almost certain, that the case is one of nephritic irritation or inflammation. Or, if the dropsy has come on more slowly, preceded and accompanied by some mechanical obstruction in the urinary passages, such as enlarged prostate, or urethral stricture, without fever, and without much impairment of digestion, and without the appearances of tubular casts or fat granules in the urine, under the microscope, it is highly probable that the albuminous quality of the urine is due to congestion of the corticle texture of the kidney, without structural change.

It is to this class of cases that the present patient belongs. He has had a stricture of the urethra for a considerable time.

The indications for treatment are, first, to remove the stricture by surgical means, which will be done by the Professor of Clinical Surgery, Prof. E. Andrews.

Second, to remove the congested condition of the kidneys, by increasing the tonicity of the capillary vessels and the quantity of urinary secretion. To accomplish this, he was directed the following formula:—

℞. Fl. Ext. Scutellaria, ---------- ℥ij.
Tinct. Mattico,---------- ℥j.
Tinct. Digitalis, ---------- ℥j.
Acetas Potassa,---------- ℥iv.

Mix. Take one teaspoonful in water before each mealtime, and at bedtime.

Consumption. — The attention of the class was next called to a man of middle age, of strong muscular frame, with a cough. The Prof. examined his chest, anteriorly and posteri-

orly, and explained carefully the nature of the sounds to be heard by auscultation and percussion; after which each member of the class used the stethoscope.

Inspection showed full expansion of the left lung but constriction of the right. Percussion shows greater dulness of the right than the left lung. Auscultation reveals, in the right lung, a strong, bubbling rale, or submucous ronchus, on inspiration, more distinct near the end of the act, and a sonorous expiration. In the left, a strong bronchial, or exaggerated respiratory murmur, showing an increased force of air necessary to carry on the functions of life, owing to the crippled condition of the right. The patient complained of soreness in both lungs and pain in coughing. The cough came on suddenly, about five months ago, and had continued uninterruptedly since. The sputa was now copious, thick, and yellow, enveloped in mucus, and never contained blood. In chronic, capillary bronchitis, the wheezing in inspiration and expiration is prolonged, and there is not dulness on percussion; but, in this case, the breath is short and right lung dense. In emphysema, the air-cells are dilated, causing great clearness on percussion, and labored expiration. If the bronchial tubes were blocked up, by exudation, or from pressure, as by an aneurism, enlarged gland, a portion of the lung would collapse, excluding all air sounds, and causing increased dulness on percussion. Neither has there been any history of pneumonia giving rise to infiltration and solidification, nor any of the phenomena of pleuritic effusion, nor any history which might lead one to suppose the formation of a cancerous mass in the lung. But there has been all the phenomena of tubercle. The patient complained of catching cold and continuing to cough. His health became impaired and digestion disturbed, out of proportion to the local lesions. Emaciation has steadily progressed. Breathing growing shorter. The cough has become more harassing, by night and day. There is fever in the afternoon, with sweats at night. Pulse 100 in the afternoon, but only 80 in the morning. The cause of this fatal scourge is attributed to some peculiar property of the blood, which gives rise to congestion

and the formation of a caco-plastic or partially organized substance called tubercle. At first, the deposits are isolated. After a time, they gradually accumulate and lead to more or less consolidation of the part. As the disease advances, these soften, and the surrounding living tissue takes on suppurative action, which gives rise to the sounds just now heard.

The indications for treatment, in the second or suppurative stage, which is the one presented by the patient before us, are, to allay the local pulmonary irritation, to correct coincident functional derangements, and to establish a more healthy and active assimilation and nutrition.

In the active, softening stage of pulmonary tuberculosis, many cases are accompanied by pain and soreness in some part of the chest, severe cough, and fever, especially in the afternoon and evening.

In such cases, the first indication named is one of much importance, because, in allaying the local pulmonary irritation, we not only lessen pain and soreness, but we greatly retard the destruction of tissue and limit the amount of suppuration. In the great majority of cases, the following prescription will fulfil this indication better than any other that we have tried:—

℞. Ammonia Hydrochlor., ---------- ℥iij.
Ant. et Pot. Tartras, ---------- 2 grs.
Morph. Sulph., ---------- 3 grs.
Glyzarrhiza Syrup, ---------- ℥iv.

Mix. Take one teaspoonful each morning, noon, teatime, and bedtime.

The most common coincident derangements are those connected with the digestive organs, such as deficient secretion of gastric juice, and consequent flatulency, constipation, and occasionally diarrhœa. The lecturer stated, that such disorders, connected with phthisis, in any stage of its progress, should receive careful attention. To make digestion more perfect, when the gastric juice is deficient, he recommended a teaspoonful of the pepsin glycerole (a preparation containing the active principle of the rennet in glycerine), immediately after each meal. To obviate constipation, one of the following pills may be taken each evening:—

℞. Ext. Hyosciamus,
Sulph. Ferri,
Pulv. Aloes, } āā,---------- 30 grs.
Blue Mass,---------- 15 grs.

Mix. Divide 30 Pills.

To promote nutrition, and thereby sustain the strength, and diminish the tendency to further tuburcular deposits, passive exercise in a mild, dry air, as much as possible, plain, simple nourishment, and the use of such articles as bismuth and iron, Liebig's ext. malt, etc., are the best means within our reach.

Correspondence.

KNOXVILLE, TENN., *May 18th, 1870.*

PROF. DAVIS,—The Spring has been unusually cool and wet. Until April 20th fires were necessary, and snow was seen upon the Unaka Mountains.

As a result, catarrhal affections, to which allusion was made in the March number of the *Examiner*, continued to prevail, and, in some instances, became pneumonia of a decidedly typhoid type. Many cases were continued or remittant and, disposed to resist treatment. The prominent characteristics were constipation, urine scanty, red, and acid, breathing oppressed and rapid, with a tendency to coldness of the extremities.

The blood seemed poisoned by effete matter, which the emunctories failed to eliminate.

There was copious secretion from the bronchial mucus membrane, which, in children too young to throw it from the mouth, caused much gastric disturbance; the torpidity of the alimentary canal rendered cathartics a daily necessity, and generally mercurials had the best effect—frequently nothing else would answer the indications.

After the disease, yielded by resolution, or expended itself by critical terminations, sul. quinin, and other tonics were clearly called for. In some cases, there were tertian exacerb-

ations, and partial remissions of excitement, when quinin, in decided doses, had the effect to suspend somewhat the morbific influence and accelerate a cure which nature was striving to effect at her more deliberate rate.

In many localities in E. Tenn., pneumonia has prevailed extensively and proved fatal.

There is a sthenic condition in about every case of disease met here, and a decided antiphlogistic course of treatment is demanded. Venesection is rarely employed by the old resident physicians; but calomel and other reducing agents are freely administered. To one who, for nearly thirty years, had practiced in the North-West, or *interior* more properly speaking, and met with nothing but the results of malaria, it is an agreeable change to be located where inflammatory diseases are common.

Roseola prevailed epidemically in April, whole families becoming effected simultaneously. The rash came out very thickly, and continued for a week, but receding and recurring at short intervals. Saline cathartics, with general treatment, called for by each case, soon restored the health.

During the cold and damp weather of Winter and Spring, dysmenorrhea is very common here, and I have found iodide and bromide of potassium very effectual. The former particularly if there was a rheumatic diathesis. Amenorrhea, for similar reasons, is quite often met with, and bromide potassium, with the pil. rhei. comp. and ammoniated tincture of guaiac will generally cause a return of the function. I find that hot whiskey toddy is very commonly used as a domestic remedy in painful menstruation, and some late writer has alluded to the effects of alcohol in that affection, in a favorable manner.

While writing this, I was invited by a medical friend to call with him to see a case of temporary insanity.

The patient is an unmixed African, about thirty years old, strong animal development, low retreating forehead, and lips nearly an inch in thickness. Since Saturday, the 14th inst., he has been wild at times, and to-day became completely frienzied. He complains of his head as if it would burst. But little can

be learned of his history, except that during the war he received an injury upon the top of his head.

My friend had given chloral hydrate, in ten grain doses every two hours; and when we called he had taken two doses. He was quiet, with a cool moist skin, pulse not accelerated, but wakeful. The Doctor also gave calomel, in four grain doses, with a-quarter grain of tartar emetic, every two hours.

20th. The patient remained quiet during the night of the 18th, but yesterday, was as wild as ever, and to-day is perambulating the streets with his hand upon his head, complaining of pain. Further inquiry has elicited the fact that during the war he was present at some religious meeting, where he became very much excited, and, that while in this mental condition, he received, by accident or otherwise, a blow upon the head as above stated.

The memory of those circumstances, under which the injury was received, seems still vivid, and intensified by excitement.

His minister states that, of late he has become so much excited upon religious matters, while at church, as to be an object of fear.

He talks incoherently of the circumstances under which the injury was received, and associates with them his religious feelings.

There must be some local cerebral affection, which may, in time, resume its latent state, or disolve itself into a form sooner or later to become fatal. I may report further of this case.

F. K. BAILEY, M.D.

Mechanical Support during Labor.—An English obstetrician has contrived an appliance for facilitating labor; which he describes in the *Lancet* as an "*obstetric support*," and which, according to his account, expedites the work of nature in a remarkable manner. It encircles and supports the abdominal muscles, ensures the due contraction of the uterus, compresses the placental vessels and prevents hemorrhage, rectifies dependence of the uterus, and supports the back. What with this support without, the forceps within, and chloroform in the brain, an accouchement is likely to become mere baby-play. —*Pacific Medical and Surgical Journal.*

Selections.

PHYSIOLOGY.

By WILLIAM T. LUSK, M.D., Professor of Physiology,
Long Island College Hospital.

1. *The Peptone Theory.*—Brücke, in a paper before the Academy of Sciences, in Vienna (*vide* Revue des Cours Scientifique, No. 50, 1869), expresses his dissent from the commonly-received opinion, that albuminoid substances necessarily undergo certain important changes before they become absorbed during digestion. The idea has its origin in the belief that diffusion and filtration take place in the peptones with much greater facility than in the albuminoids. Albuminoid substances pass with difficulty porous filters, because of their large sized molecules. But they are not all alike in this regard. The white of an egg passes through a cloth only as a consequence of strong pressure; whereas the speed with which the albumen of Wurtz passes through a filter proves that difficult filtration makes no part of the integral properties of natural albumen.

It is claimed that albuminoid substances must be transformed into peptones previous to absorption; and by peptones are understood modifications of albumen, which neither coagulate spontaneously, nor by heat, nor upon the addition of acids. This proposition is essentially erroneous. In animals killed during absorption, and kept twenty-four to forty-eight hours in a cold spot until the muscles were dead, Brücke found on opening the abdomen that the chyle was coagulated in the lacteals. This coagulation was most likely due to the presence of an acid, as the experiments were mostly made upon mammalia fed with milk, and the contents of the small intestine were likewise found in each case both acid and coagulated. The coagulation was not due to the admixture of lymph, as it extended to the ampullæ of Lieberkühn, from which upon sections the chyle could be pressed out in the form of filaments, visible under the microscope. Here the quantity of blood-plasma, escaped from the capillaries of the villi, must have been small, and it is known that albumen in blood-serum is only precipitated in minute quantities on the addition of a very dilute acid. The coagulation can hardly have been due to fibrin, for the chyle,

taken from the lacteals of mesentery, and mingled with all the intestinal lymph, possesses but feeble coagulating powers. There is no doubt that the small intestine is capable of absorbing an albuminoid substance which does not possess the properties of the peptones. Aside from the albumen of the pancreatic juice, there is no difficulty in deriving from the nitrogenized alimenti a coagulable albuminoid matter capable of absorption. This we do by taking the liquid obtained by the digestion of meat before those modifications are produced, which result from the prolonged action of the gastric juice, neutralizing it until it is only feebly acid, when an albuminoid matter is precipitated, which again is soluble in an excess of alkali, and can afterward be reprecipitated from the alkaline fluid by rendering it once more feebly acid. This precipitate, which really forms when the bile flows into the duodenum, has furnished Meissner with his parapeptone theory. It may dissolve anew in the contents of the small intestine. The albuminoid substance thus precipitated and redissolved may become modified by the pancreatic juice; or it may be absorbed either wholly or in part before it has lost the property of separating upon the commencement of an acid reaction. If this reaction occurs after death, we would have at the same time coagulation of the chyle in the lacteals. But can albumen coagulable by heat be absorbed? The pancreatic juice contains an albuminoid body coagulable by heat, to which is attributed the *role* of emulsifying the fats. Fat is not only absorbed, but passes into the villi, carried along by the current of the liquid holding it in suspension. Now, we can hardly admit that passages large enough to permit the transit of fat-globules are too small to allow that of the molecules of the albumen, which has served for their emulsion, and if the passages allow the coagulable albumen of the pancreatic juice to traverse them, why not the albumen derived from food?

Bauer kept a dog fasting until the excretion of urea had become nearly constant. He then injected solutions of albumen into the large intestine, using sometimes peptones, sometimes the expressed acid muscular juice, sometimes albumen in a solution of salt, and finally albumen that had first been whipped, and then allowed to become fluid. In all of the three first instances, the large increase in the amount of urea excreted, proved that absorption had taken place.

Now, what is the state in which the albumen derived from food arrives in the intestines? Raw meat hashed, mixed with a good digestive fluid until the greater part has been dissolved, then filtered and neutralized until the precipitate, termed by

Meissner parapeptone, is formed, furnishes a fluid after further filtration, presenting a feebly acid reaction, which passes readily through a filter, and which coagulates with heat. This soluble albumen is found during artificial digestion for more than four hours, even when kept at the temperature of the body at which the peptonizing process is most active. Brücke says it is not the pepsine, but the acid, that takes from albumen its coagulabilty. To restore the latter, we need therefore to completely neutralize the fluid. Thus albumen remains soluble long enough to pass in that state into the intestine. A dog kept fasting for forty-eight hours, and then fed on raw meat, was killed two hours after the reception of food. The stomach contained a notable quantity of meat in fragments, and a liquid, which, after the addition of carbonate of soda, and the production of the precipitate of the neutralization, coagulated upon application of heat. The intestine contained a mucous liquid, rich in SOLUBLE albumen, and the microscope showed the presence of muscular fibres. Absorption was going on actively, and the lacteals were filled with chyle. Another modification of albumen was sometimes found in the stomach, distinguished from the foregoing, by the property of forming a precipitate of a gelatinous appearance, in adding to the neutral solution a weak solution of acetic acid. In this condition it coagulated by heat, a property not possessed when the solution presented a neutral reaction. This modification was probably in part due to the presence of an increased quantity of phosphatic salts.

After the ingestion of cooked albumen, however, the products of digestion, which have been operated upon by the gastric juice, furnish a precipitate when neutralized, but the filtered fluid no longer coagulates by heat. As man scarcely employs any thing but cooked food, it would seem that the soluble albumen of the system is regenerated either by the precipitable albumen, or by some foam of albumen so modified as not to coagulate by heat. But Kühne has found that the cooked fibrin of the blood is so modified by the pancreatic juice as to dissolve in a solution of common salt and form a liquid coagulable by heat; so it is probable that the pancreatic juice forms albumen coagulable by heat from the cooked albuminoid substances which pass undigested into the small intestine, and perhaps even from the precipitated albuminoid matters, which are found in the mass of the products of digestion after the action of the bile and the neutralization of the acid they contain. In the small intestine there is a notable quantity of soluble albumen, coagulable by heat, even when cooked meat has been

used, which, however, proves nothing, as it may be derived from the pancreatic juice. Brücke obtained chyle from the lacteals by suction through a glass tube, and found that, when the contents were brought rapidly to the boiling-point in a tube placed in an oil-bath, they coagulated. But this may have been due, possibly, either to pancreatic juice, or to the lymph contained in the lacteals. This much, however, is certain, that there takes place an absorption of albuminoids which do not possess the properties of the peptones.

Brücke found it required fifteen hours to convert parapeptones into peptones at a temperature of 38° Celsius. Meissner says he never knew the transformation effected in so short a time. Mulder found that it required thirty-two hours, at a temperature of 40° Celsius, to completely change albuminoids into peptones. In the female, with the intestinal fistula observed by Busch, aliments began to pass out of the fistula at the end of from fifteen to thirty minutes, and digestion was completed, after a full repast, in three or four hours. In so short a time the conversion of albuminoids into peptones must have been relatively incomplete. It is well to notice, too, that after the patient had been strengthened by artficial alimentation through the lower part of the intestine, she was successfully nourished by the natural passages, notwithstanding the limited extent of the absorbent surface.

Admitting that the pancreatic juice continues the conversion into peptones, long before the albuminoid substances have had time to become materially modified, so soon in fact as the chyme reaches the small intestine, absorption begins; and if this portion of the intestine contains albuminoid substances in a state susceptible of absorption, they must necessarily be absorbed.

The question may be asked whether such albuminoid matters are really utilized by the economy—whether they do not disappear, while the albumen of the organism is regenerated by means of the peptones. When Busch first received his female patient, she was in a most deplorable condition. Believing that, so long as food was introduced by the natural passages only, she would not regain her strength, because of the shortness of the absorbent surface traversed, he introduced nitrogenized aliments by the fistula, so as to pass over the second portion of the intestinal canal. As this portion received neither gastric, nor pancreatic juice, were we to admit that all the albuminoid substances utilized after absorption consisted of peptones, we would have to presume a peptonizing activity on

the part of the intestinal juice, in no wise warranted by our experience regarding it.

If albuminoid substances are exposed sufficiently long to the action of a digestive fluid, they become, according to Kühne, converted into leucine and tyrosine, yet no one would think of these substances as serving to regenerate the albuminoids of the economy. Yet in a series of metamorphoses why reject the first and last term, and fix upon the mean term, *viz.*, the peptones, as the sole regenerators. Simply, because they were thought to rank highest in the scale of the substances allied to albuminoid matters, which were capable of absorption; but, now that we recognize that other albuminoid substances, less modified in character, are capable of absorption, we must give to these the precedence over the peptones. There is no longer any reason for regarding the regeneration of the albuminoids as taking place at the expense of products of decomposition.

The question for us to solve is simply this. A series of albuminoid bodies and their products are absorbed during digestion. Which of these substances serve specially to regenerate the blood, the muscles, and the nerves? The limit ought to be fixed, beyond which the albuminoid substances cannot further be modified in the intestinal canal, and still preserve the property of regenerating the albuminoid substances which fulfil the *role* of functioning constituent elements of the organism. The solution is attended with labor and difficulty perhaps, but seems by no means impossible, through the agency of direct experiment upon animals provided with intestinal fistulæ.—*New York Medical Journal.*

Book Notices.

Renal Diseases: A Clinical Guide to their Diagnosis and Treatment. By W. R. Basham, M.D.; Fellow of the Royal College of Physicians; Senior Physician to the Westminster Hospital, and Lecturer on Medicine, etc., etc. With Illustrations. Philadelphia: Henry C. Lea. 1870. For sale by S. C. Griggs & Co. Price $2.

This is a small-sized octavo volume of 304 pages, neatly printed and elegantly bound; and contains, in a small compass, a good summary of the present knowledge in the profession, in regard to renal diseases and their treatment.

Eighth Annual Report of the Board of Public Works, to the Common Council of the City of Chicago, for the year ending March 31st, 1869.

This is a volume of 207 pages, containing a very interesting statement of facts concerning the progress and present condition of the public improvements in this city. In regard to the extent of the water pipes, supplying water from the lake tunnel, the report says:—"There are now laid in the city, of mains of all sizes, 208 miles and 3117 feet. This extent of pipes laid exceeds that of any other city in our country, excepting New York, Brooklyn, and Philadelphia." Connected with the water pipes are 1070 fire hydrants. The total income received from water rents and taxes, during the year ending March 31st, 1869, amounted to $420,686.94." Total expenses for interest on debt and operating expenses $309,694.50; leaving a surplus revenue, to be applied to additional improvements, of $110,992.44. Total cost of the water works of the city, up to date of the report, $3,146,383.14. The sewers of the city are all laid on a definite plan or system, and the total length of sewers laid in the city, up to March 31st, 1869, was 110¼ miles." The report of the Board is accompanied by many interesting maps, and illustrations, and plans for future improvement.

Editorial.

Proceedings of Societies.—In our preceding number, it was stated, that we should publish in this, the record of proceedings of the Illinois State Medical Society, and of the American Medical Association. But the space occupied by the proceedings of the Association of Medical Editors, and of the Indiana State Medical Society, in this number, necessitates a further delay. In the meantime, Dr. Atkinson, the Permanent-Secretary of the American Medical Association, has published, in pamphlet form, a full and correct record of the

proceedings of the recent meeting of that organization; and all who desire a copy can obtain it, by sending their address and twenty-five cents to W. B. Atkinson, 1400 Pine Street, Philadelphia.

The following are among the more important items of business, transacted in the general sessions of the Association:—

The Committee on a National Medical College, of which Prof. F. G. Smith, of Philadelphia, was Chairman, reported progress, and the Committee was continued.

Dr. Thos. Antisell, of Washington, read a report on Veterinary Surgery, which was referred to a special committee, consisting of Drs. S. D. Gross, of Philadelphia; Thos. Antisell, of Washington; and Alex. W. Stein, of New York.

Dr. J. S. Moore, of St. Louis, offered a resolution, recommending a minimum fee, below which medical colleges should not be allowed to charge, for a regular lecture term, which was discussed and laid on the table.

The following committee was appointed to prepare a nomenclature of disease, to report next year.

Committee on Nomenclature of Diseases.—Drs. Francis G. Smith, of Philadelphia (Chairman); George B. Wood, of Philadelphia; S. H. Dickson, of Philadelphia; Alfred Stillé, of Philadelphia; S. E. Chaille, of Louisiana; J. J. Woodward, United States Army; G. A. Otis, United States Army; W. S. W. Ruschenberger, United States Navy; Ninian Pinkney, United States Navy; Alonzo Clark, of New York; Austin Flint, of New York; Edward Jarvis, of Massachusetts; Wm. M. McPheeters, of Missouri; L. P. Yandell, of Kentucky; A. B. Palmer, of Michigan; Theo. Parvin, of Indiana; R. F. Michel, of Alabama.

The following resolutions were offered by Dr. A. W. Stein, of New York, and adopted:—

Whereas, We regard the cultivation of veterinary science of the most vital importance, not only to the advancement of human medicine, but also for reasons of political economy and agricultural interests—

Resolved, 1. That we recommend the State and county medi-

cal societies to use their influence in the establishment and support of veterinary schools in their respective States.

2. That they ask the Governors of their respective States to recommend in their messages to their Legislatures the importance of establishing veterinary colleges, and that appropriations be made to support them.

3. That they recommend the Governors and State Legislatures when organizing Boards of Health, to appoint one or more thoroughly educated veterinary surgeons to be associated as commissioners with the other officers of the Board.

Drs. Joseph Parrish, Willard Parker, and W. H. Mussey were appointed a committee, to report on the feasibility of establishing institutions for the cure of persons addicted to the use of intoxicants, and on the most approved methods of conducting such institutions.

The following resolutions were adopted:—

On motion of Dr. B. F. Dawson, of New York, it was

Resolved, That as the medical press of this country is recognized as holding a position of great power and high character,

Be it *resolved*, That in order to still further elevate its character and augment its influence, the editors of the medical Journals of this country be requested by this Association to refuse to notice, in their journals, all patent medicines, instruments, works of unprofessional or unscientific character, non-chartered institutions or hospitals, and the cards of specialists. And that advertisements of the above be refused insertion in their respective journals. And further, that such journals declining to obey the above be refused the courtesy of exchange, and their editors be refused membership in the Association of American Medical Editors.

The following officers were chosen for the ensuing year:—

President—Dr. Alfred Stillé, of Pennsylvania.

Vice-Presidents—1. Dr. J. S. Wetherly, of Alabama; 2. Dr. Henry Gibbons, of California; 3. Dr. T. J. Heard, of Texas; 4. Dr. Samuel Willey, of Minnesota.

Assistant-Secretary—Dr. Joseph C. Tucker, of California.

Treasurer—Dr. Caspar Wister, of Pennsylvania.

Librarian—Dr. F. A. Ashford, of District of Columbia.

Committee of Arrangements.—Chairman, Drs. A. N. Sawyer; Brown, U.S.N.; J. C. Tucker, Shurtleff, Holman, Murray, (U.S.A.), and Simmons, of California; Horace Carpenter, of Oregon; Bronson, of Nevada.

Committee of Publication.—Drs. F. G. Smith, of Pennsylvania, Chairman; Wm. B. Atkinson, of Pennsylvania; J. C. Tucker, of California; F. A. Ashford, of District of Columbia; Caspar Wister, of Pennsylvania; H. F. Askew, of Delaware; James Aitken Meigs, of Pennsylvania.

Committee on Prize Essays.—Drs. T. M. Logan, of California (Chairman); H. Gibbons, H. H. Toland, Beverly Cole, Cooper Lane, of California.

Place of meeting, San Francisco, California.

Time of meeting, 1st Tuesday in May, 1871, at 11 A.M.

Sections.—*Chemistry and Materia Medica.*—Drs. D. W. Yandell, of Kentucky (Chairman); H. S. Hurd, of Illinois (Secretary).

Practical Medicine and Obstetrics.—Drs. H. R. Storer, of Massachusetts (Chairman); J. K. Bartlett, of Wisconsin (Secretary).

Surgery.—Drs. J. L. Atlee, of Pennsylvania (Chairman); Horace Carpenter, of Oregon (Secretary).

Meteorological and Epidemic Diseases.—Drs. N. S. Davis, of Illinois (Chairman); C. C. Hildreth, of Ohio (Secretary).

On Medical Jurisprudence.—Drs. T. Parvin, of Indiana (Chairman); J. A. Murphy, of Ohio (Secretary).

On Psychology.—Drs. J. H. Griscom, of New York (chairman); O. F. Renick, of Missouri (Secretary).

Committee of one to assist the Librarian, to reside at Washington, to be continued, Dr. Joseph M. Toner.

S. M. BEMISS,
Chairman of Committee on Nominations.

It will be seen, that in addition to the election of the ordinary officers of the Association, officers were also appointed for each section.

This is in compliance with a bye-law, adopted at New

Orleans, in 1869; and was intended to make the sections more permanent and efficient in the accomplishment of the scientific work of the Association. The same bye-law directs, that "papers appropriate to the several sections, in order to secure consideration and action, must be sent to the Secretary of the appropriate section, at least *one month* before the meeting which is to act upon them.

"It shall be the duty of the Secretary, to whom such papers shall be sent, to examine them with care, and, with the advice of the Chairman of his section, to determine the time and order of their presentation, and give due notice of the same; and after their full examination and discussion by the section, they shall be sent to the Permanent-Secretary of the Association."

If this bye-law should be complied with, by those intending present papers, it will enable the officers of each section to place on a card, directly before the Association, at the beginning of each session, the principal work to be done in each section and the time of doing it; which would be a great accommodation to the members, and insure a much more efficient consideration of the papers presented. It is hoped that this arrangement will not be forgotten by all special committees and individuals preparing reports or papers for the Association.

If those connected with the medical press would give some of the space devoted to finding fault with the Association, to notices of these and other arrangements, calculated to promote method and efficiency, in the attention to strictly scientific and practical matters, they would do much more to advance the character and usefulness of our national organization.

Chicago Medical College and Female Students.—In compliance with the urgent request of certain parties, the Faculty of the Chicago Medical College last year opened the doors of that Institution for the admission of Female Students; and three or four ladies attended regularly the whole term. They were treated by the young men with respect and propriety, and no serious difficulty arose from their presence. It

was true, however, that patients were sometimes found, both in the Hospital and Dispensary, who objected to being presented for clinical instruction before a mixed audience of males and females. And as there are now measures already being taken to establish a College for the special education of women in medicine, having some connection with the Hospital for Women and Children, in this City; and perhaps another in connection with the University of Michigan, at Ann Arbor, the Trustees and Faculty of the Chicago Medical College have declined to receive any more Female Matriculants. Consequently there will be no more mixed classes either in the Chicago Medical College or in the Mercy Hospital.

Diagnosis of Renal Disease from Blood-corpuscles in the Urine.—Dr. Joseph G. Richardson, Microscopist to the Pennsylvania Hospital, Philadelphia, has applied to the elucidation of the condition of the kidney in renal disease the well-known views of Cohnheim, regarding the relation of the white blood-corpuscles to the inflammatory process. If both red and white corpuscles are present in the urine, and if it can be ascertained that their occurence is independent of vesical irritation, the following indication may be derived from their relative proportion.

When the red corpuscles greatly exceed the white in number, true hemorrhage has taken place from the kidney. This conclusion will be strengthened if no tube-casts be found, and the albumen be present in such quantity as will correspond to the amount of corpuscles, supposing both to be furnished by the liquor sanguinis.

When the white corpuscles are more than $\frac{1}{25}$th of the red, there is inflammation of the kidney of either an acute or a subacute kind, and the danger will be found to be in direct proportion to the total amount of the corpuscles.

When few or no red corpuscles are found to be mixed with the white, chronic inflammation is present, and is proportionate in extent to the number of blood-corpuscles.

In cases of acute Bright's disease, passing into the stage of fatty degeneration, the appearance in the urine of epithelium, containing oil globules points to the change from the stage of inflammation, and these epithelial cells will be found, according to the author, to vary inversely with the number of white corpuscles present, the albumen remaining the same in amount.—*Baltimore Medical Journal.*

Mortality for the Month of May, 1870.

Accident, drowning	2	Dysentery	1	Neuralgia	1
" asphyxia	1	Dyspepsia	1	Old age	3
" by fall	3	Endo-pericarditis	1	Paralysis	2
" gun-shot wound	1	Entero-colitis	1	Pertyphitis	1
" railroad	3	Enteritis	5	Pericarditis	1
" shock to system	1	Epilepsy	1	Peritonitis	3
" suffocation	1	Erysipelas	6	" puerperal	1
Anasarca	2	Exhaustion, from hemorrhage	1	Pleurisy	1
Anæmia	1	Fever, puerperal	2	Pneumonia	22
Angina	1	" remittent	1	" & complications	3
Apoplexy	9	" scarlet	20	" typhoid	1
Asthma	1	" " complications	7	Pyelitis, following cystitis	1
Atelectasis pulmonum	2	" " malignant	5	Rheumatism	1
Albuminuria and old-age	1	" typhoid	8	" and pericarditis	1
Births, premature	18	Foxemia following childbirth	1	Scrofula	2
" still	39	Gastritis	2	Small-Pox	2
Breast, cancer of	1	Hæmoptysis	1	Spine disease	1
Bowels, intussuscept'n	1	Hæmorrhagia, general	1	" inflammation	1
Brain, congestion	5	Heart, dropsy	1	" and brain disease	1
" inflammation	5	" congestion	1	Spina bifida	1
" ramollissement	1	" disease	1	Stomach, cancer	2
" softening	3	" organic disease	1	Strangulation, intern'l	1
Bronchitis	4	" valvular disease	2	Suicide, by drowning	3
" chronic	1	Hydrocephalus	8	" poison	2
" capillary	2	" acute	3	" shooting	3
Cancer of face	2	Inanition	14	Suffocation, by tumor of neck	1
Chorea and convuls'ns	1	Intemperance	1	Tabes mesenterica	16
Chlorosis	1	Laryngitis	3	Teething	3
Cholera Infantum	6	Liver, hypertrophy	1	" & complications	3
Consumption	57	Lungs, congestion	7	Tetanus	1
Convulsions	50	" gangrene	1	Uræmia	1
Croup	9	Manslaughter	1	Uterus, cancer of	2
Cynanch tonsillaris	1	Mania, acute	1	" hemorrhage	1
Debility, general	3	Measles	5	Whooping-cough	6
Diarrhœa	4	" & complications	7	" & complications	3
" chronic	1	Meningitis	9		
Diphtheria	7	" cerebro-spinal	4	Total	436
Dropsy, general	4	" tubercular	3		
" of chest	1				

COMPARISON.

Deaths in May, 1870,	436	Deaths in May 1869,	372	Increase,	64
Deaths in April, 1870,	494	Decrease,			58

AGES.

Under 1	138	10 to 20	24	60 to 70	10
1 to 2	56	20 to 30	37	70 to 80	5
2 to 3	21	30 to 40	45	80 to 90	1
3 to 4	14	40 to 50	34		
4 to 5	6	50 to 60	17	Total,	436
5 to 10	28				

Males,	235	Females,	201	Total,	436
Single,	329	Married	107	Total,	436
White,	431	Colored,	5	Total,	436

NATIVITY.

Austria	1	England	13	Norway	10
Bohemia	1	France	2	Sweden	7
Canada	7	Germany	44	Scotland,	6
Chicago, Native	64	Holland	3	Unknown	2
Chicago, Foreign	166	Ireland	46		
U. S., other parts	62	New Brunswick	1	Total,	436
Denmark	1				

MORTALITY BY WARDS FOR THE MONTH.

Wards.	Mortality.	Wards.	Mortality.
1	8	19	14
2	10	20	20
3	21	Accidents	12
4	5	County Hospital	6
5	9	Home for Friendless	2
6	19	Hospital Alexian Brothers	1
7	25	Immigrants	9
8	40	Jewish Hospital	1
9	36	Lake Hospital	1
10	10	Marine Hospital	1
11	17	Mercy Hospital	4
12	20	Manslaughter	1
13	9	St. Luke's Hospital	1
14	12	St. Joseph Orphan Asylum	14
15	29	Suicide	8
16	23		
17	25	Total,	436
18	23		

GLYCOGENIC FUNCTION OF THE LIVER.—Dr. Austin Flint, Jr. (Glycogenic Function of the Liver. NEW YORK MEDICAL JOURNAL, January, 1869), removed in a number of cases a portion of the liver from a living animal, and having plunged it into boiling water to arrest the fermentation of its glycogenic matter, demonstrated in it the absence of sugar. Then killing the dog, and rapidly tying the portal vein, and the vena cava above and below the hepatic veins, demonstrated in blood from the latter vessels an abundant presence of sugar. Whence he concluded that during life the glycogenic matter is undergoing continual change into sugar, but is not found in the liver-tissue proper, because it is washed out by the blood as soon as it is formed.

Pavy, in the September number of the same Journal, replies that the delay in applying ligatures to the vessels after destroying life is sufficient for a *post mortem* production of sugar to take place, and that the sugar found in the hepatic veins by Dr. Flint was, consequently, the product of *post mortem* fermentation. (It can, however, be conclusively demonstrated that the quantity of sugar taken from the right side of the heart, though

in itself trifling, is really much larger than what is found in vessels of the body more remote from the liver.—W. T. L.)—*New York Medical Journal.*

The Physiology of the Pancreatic Secretion.—(N. O. Bernstein. Central Blatt., No. xlv.) Bernstein established permanent pancreatic fistulæ in animals by introducing into the pancreatic duct a lead wire, the two extremities of which were inserted into the opening while the central portion was so twisted as to form of the whole a letter T. The wire was thus retained it the duct without a ligature. The secretion was caught by a funnel covering the wound, and terminating in a graduated tube. The fluid obtained continued to present the digestive properties of the pancreas. While fasting no secretion took place. The latter began during the first hour after food had been taken, and reached its maximum in the second or third hour, then fell, to increase again between the fifth and seventh hour, then again sank, and finally disappeared in about fifteen hours. There was complete suppression during vomiting. Division of the vagus produced no effect, while irritation of the centric end was followed by suppression. Division of the pancreatic nerves proper, which accompany the arteries, produced a continued and very abundant secretion of normal juice, and the gland became red and œdematous. Woorari poisoning produced an increased secretion.—*New York Medical Journal.*

Constituents of Ergot.—Although it is some years since the discovery of two alkaloids existing in ergot of rye, the fact is, as yet, little known to the profession. A recent confirmation of the discovery, brings the matter again to notice, and this, together with the statement, in a translation by Dr. Deane, of an article on the hypodermic use of ergot, as published in the *California Medical Gazette*, that the chemical property of ergot which produces the specific result has not been determined, renders the following account of interest. In 1864, Mr. Wenzell, then of La Crosse, Wisconsin, but now permanently located in San Francisco, published in the *American Journal of Pharmacy* the results of an analysis of ergot, stating that he had succeeded in isolating two new alkaloids, *ecbolin* and *ergotin*, and an organic acid, ergotic acid, besides trymethylamin, (pseudopropylamin) previously discovered by Winkler. The existence of these, Mr Wenzell established to his own satisfaction by means of qualitative reactions, as newly discovered and not previously

described. Subsequently, Mr Manassewitz repeated Mr Wenzell's experiments and obtained ergotin, but failed to isolate the acid and the *ecbolin*. In 1869, however, J. Carl Hermann, (*Wittstein's Viertelj. Schr.*) succeeded in isolating the *ecbolin*, thus fully confirming Wenzell's discovery. It remains to be ascertained whether the active principles of the drug reside in the alkaloids. Mr Wenzell informs us that in some experiments directed to this end he obtained from the alkaloids all the effects usually produced by ergot.

Tetanus Produced by the Administration of Quinia Hypodermically.—A case of this character is reported by E. Paul Sale, M.D., Aberdeen, Miss., in the *N. O. Jour. of Medicine*. The patient, aged nineteen, mother of twins, æt. three months, was suffering from *malarial coma*, the result of a tertian intermittent fever of two months' duration. Desiring to rapidly quininize her, he administered in the arm, by hypodermic injection, quinia, gr. vj., of an ethereal solution.

Four days afterwards the arm was much tumefied, hot, and very painful to the touch, when the syringe was inserted. Twelve days from the injection, Dr. Sale was summoned to the patient's bedside to prescribe for trismus with opisthotonos; but she succumbed after receiving the best of treatment. The chief point developed by this case is this: It shows the deleterious effects which frequently follow the use of quinine hypodermically. This is the fourth case out of ten in which he has had cause to regret resorting to this method of medication, on account of the violent inflammation which has been the sequence.

The Administration of Chloral.—J. M. Da Costa, M.D. (*Am. Jour. Med. Sciences*), in his "Clinical Notes on Chloral," thus observes: With reference to the action of chloral on coughs it is sufficient. Nor did it do any good in the only case of asthma in which he tried it. He has also been disappointed in its use in hiccough and in chorea. It is important to know that this powerful agent is not devoid of danger, and in every case we should administer it in tentative doses and carefully note its effects. It is contraindicated in some diseases of the heart, and ought not to be prescribed for patients with feeble heart. Some of the unpleasant effects of the drug can be avoided by the simultaneous administration of opium. The two remedies can be used advantageously in some cases of delirium tremens, and when we wish to quiet pain. In conclusion,

he believes that it is an important addition to our therapeutic means—chiefly, however, as a hypnotic. Its action as a destroyer of pain is limited, and it cannot compete with ether or chloroform in producing the insensibility requisite for surgical operations. Its chief value seems to be that of an auxiliary to opium, or to take its place when opium is not admissible. It is, however, not so certain; nor is it likely to displace that peerless drug.—*Medical Record.*

Ovariotomy Twice on One Patient.—M. Boinet exhibited to the Paris Academy of Medicine (*Lancet*) a woman of 48, in good condition, from whom he had removed both ovaries. The left ovary, first-removed, weighed 36 pounds, and the other, removed ten years afterwards, 18 pounds. At the second operation, she was very near dying from diphtheria, which was limited to the air-passages, not affecting the wound. M. B. always includes the peritoneal edge in the sutures of the lips of the wound.

Shock.—Prof. J. T. Hodgen, St. Louis, in a recent paper on fractures, says he cannot imagine a case of shock in which stimulation would save a life that would be lost without it. He advises quiet, exclusion of light and sound, and after a few hours, if the patient calls for it, gives milk, or essence of beef, but no *stimulant as such* under any circumstances.—*St. Louis Medical and Surgical Journal.*

Ergot in Hemoptysis.—Dr. Drasche states that he has used ergot hypodermically in hemoptysis with entire success. Von Graeffe has gotten similar results. Dr. Plagge thinks that ergot, administered subcutaneously, is the most reliable agent in this affection, arresting the hemorrhage almost instantaneously by inducing coagulation of the blood.—*Dr. Henry, in Cincinnati Medical Repertory.*

Morphia as the Test for Opium.—It has been generally regarded that the quality of opium may be determined by the proportion of morphia it contains. But owing to value of the other active principles contained by it, and which may not exist in the same proportions as morphia, pharmacists are tending to the opinion that the morphia test is not altogether correct.

Bromide of Potassium in Saccharine Diabetes.—Prof. Austin Flint, Sr., reports in the *American Practitioner*, three

cases of saccharine diabetes in which he prescribed the bromide of potassium in 15 to 20 grain doses three times daily, with ordinary anti-diabetic diet, with very marked benefit. There was in each a rapid diminution of the thirst, a decrease of the amount and specific gravity of the urine to about a normal condition, and a corresponding improvement in the general health and condition of the patients.—*Medical Record.*

A Chair of the History of Medicine. The late M. Salmon de Champotran, of the Council of State, Paris, left to the Faculty of Medicine of Paris a legacy to found a chair of the history of medicine. M. Bouchut is the prominent candidate.

Cinchona.—The culture of the cinchona, or Peruvian bark, in St. Helena is progressing. The plants all look flourishing. There are now about 4000 of them.

Medical "Wrinkles."—The quaint and practical Thomas Inman, M.D., of Liverpool, in one of his readable essays on the "Restoration of Health," thus remarks: "Do you wish to ascertain the health of a baby, feel the condition of its buttocks. If these are firm and elastic, one may always be sure that the little one is strong and well; but if, on the other hand, they are soft, as if they were boiled turnips in a bladder, it is certain that the child is out of sorts.

Treatment of Epilepsy.—George Johnson, M.D., F.R.C., Physician to King's College Hospital, advocates chloroform in connection with bromide of potassium in this affection. Chloroform wards off a threatened fit, and cuts short a violent and prolonged paroxysm.

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Original Contributions.

ARTICLE XVIII.

STRABISMUS.

By H. W. BOYD, M.D., Prof. Anatomy, Chicago Medical College.

Strabismus consists in a lack of parallelism in the axis of vision, so that it is impossible to direct both eyes to the same point simultaneously. This has always been considered mere deformity, owing to the contraction of a tendon, but of late years, the pathology of the affection has been carefully studied, and shown by Donders to be something more. The contraction of the tendon is not the primary, but simply a secondary cause, and at first merely a symptom of the original or primary difficulty. Strabismus affords a wide field for study, and is one of the most abstract and complicated subjects connected with ophthalmic science. The true pathology of the affection was never understood until the subject of the anomalies of refraction attracted the attention of Donders and his earnest co-laborers. Within a few years, writers have ascribed as the causes of strabismus, "imitation of other squinting persons," to convulsions, intestinal worms, etc., the category of causes being unlimited, including every disease, accident, and incident of any kind, which might have happened about the time the affection first appeared, never explaining how any of the causes operated in producing the affection.

There are four forms of strabismus described. Strabismus convergens, in which the deviation is inwards. Strabismus divergens, in which the deviation is outwards, and also two other forms—one in which the eye deviates upwards, and in the other downwards, (S. subvergens, and S. deosubvergens): the two latter forms are so rare that they are seldom seen. Convergent strabismus is an abnormal deviation of one or both eyes inwards. This is by far the most common form of squint, and it is easy to see that the axis of vision of the two eyes not being parallel, but one eye can be used at a time in the act of seeing, and in the early stages, the patient either suffers double vision, or, he converges the eyes so much that he actually becomes a one-eyed person, so far as actual vision is concerned: the diploplia, however, lasts but a few months, for by its continual disturbance of vision, the eye is thrown permanently aside, and the prolonged disuse of the organ entails such a degree of amblyopia that it becomes useless, unless the affection is double and equal in each eye; in this case he uses one eye as much as the other alternately, first one and then the other, in which case vision is preserved equally in both eyes.

Strabismus exists in various degrees, and it is frequently desirable to measure the extent of the deviation; this may be accomplished in a variety of ways. A simple method is to have the patient look at some fixed point, and, of course, his sound eye being fixed upon one point, the affected eye will be at its greatest convergence or divergence, as the case may be; then with a pen make a mark on the lower lid, just below the centre of the pupil, then let the patient close his sound eye with his fingers, and fix the object with the affected eye, and when the eye is fixed make a second mark just below the center of the pupil, and the distance between these two points marked on the lower lid, measured in lines, will express the degree of the strabismus. This is a simple method of measuring the degree of the deviation, and is very convenient when the surgeon does not possess an instrument called the strabismometer. The one invented by Mr. Lawrence is a very good one, and is the one now in

general use; it consists of a plate of ivory made to fit closely to the lower lid, the outer side of it is graduated in lines and half lines; this plate is fitted into a handle, and by placing it to the lower lid just below the eye, it is easy to see that the position of the cornea can be ascertained exactly, and the extent of the deviation shown, either in the convergent or divergent forms; it should be tested for both near and distant objects, as it may be considerably greater during a strong effort of accommodation, as reading very fine print, than when the patient is looking at a distant object. In some cases of stabismus, the eyes do not seem to be in the same plane, one eye seems to be higher than the other; this may be owing to the upper fibres of the internal rectus being contracted more than the lower or middle fibres of the same muscle, or it may be owing to the fact that the superior rectus is also implicated in the affection; this point must be accurately determined, by examining into the associated action of the two eyes. The sound eye must be covered with the hand, and the affected eye be made to fix upon some object; now, if the internal rectus be the only one affected, the associated action of the sound eye will be exactly lateral, without any deviation in height; while if the superior rectus is also implicated the sound eye will not only make a lateral movement, but also a downward movement, corresponding to the downward movement of the other eye. In the first instance, the strabismus may be cured by tenotomy of the rectus internus, and especially dividing pretty freely towards its upper border; but in the last, only by a tenotomy of the whole of the superior rectus.

The mobility of eyes affected with strabismus is not materially affected, except in some very old aggravated cases. In alternating strabismus, so called because the squint alternates, first in one eye, and then in the other, the visual power is equal in each eye, and the motive power in such cases is never decreased. The arc of mobility is the same in both eyes, only it is shifted inwards, or outwards on the affected side, according as the case is convergent or divergent; but this increase of mobility on the side of the shortened muscle, is counterbalanced by a corresponding loss in the movements outwards, in convergent, and the

movements inwards, in divergent strabismus. If we hold a pencil or any object in front of the eyes of the patient, and move it from side to side in front of his face, it will be seen that both eyes follow the object in its movement, the affected eye always holding the same associated relation to the sound one, always having the same angle of deviation, except when directed to objects situated at great distances, and for this reason this form of squint is called by Von Græfe concomitant. In strabismus resulting from paralysis of the externus or internus, of course the motor power of the eye is lost, and all associated movements are destroyed in the direction of the paralyzed muscle, and according to Von Græfe, it is even difficult for the sound eye to make certain associate movements, and consequently the fixation of objects in certain positions can be kept up with great difficulty, or is not undertaken at all; and then the patient tries to assist himself by turning his face to the side towards which the movement of the one or the other eye is rendered difficult, and in this way lessons the demand on the expenditure of power of the affected muscle; and it is also observed, in these cases where the head is turned to one side, that the degree of the strabismus is apparantly somewhat lessened. The patient is also usually aware of advantages arising from certain positions of the head, in apparently lessening the deformity, and by habitual practice he gradually accustoms himself to a very peculiar manner of holding his head, which in a few years becomes a permanent position of the head. The muscles of the neck are in an abnormal relationship to these of the eye, and will frequently continue so, even after successful operations for the cure of the strabismus. It is a question of considerable interest as to what extent binocular vision exists in strabismus, or rather the possibility of obtaining it after an operation; its presence is proved by the existence of binocular diplopia. Cases are occasionally operated upon where the diplopia annoys the patient for weeks, or until binocular single vision is produced by means of glasses; such causes are rare. It is quite common where you get binocular vision, for the diplopia to annoy the patient for a few days, but it soon passes away, and leaves the

patient with binocular single vision. According to Stellwag, binocular vision is but rarely, if ever, at all obtained; while on the other hand, Von Græfe claims that at least fifty per cent of the cases have binocular single vision. Thus it would seem that considerable discrepancy exists between high authorities on this point. Stellwag claims that the data from which Von Græfe forms his opinion are not reliable; while his own data are derived from the falling experiment of Hering. Græfe supports his views by experiments with the stereoscope. It is certain that both of these distinguished gentlemen are too radical on this point. Græfe says that even before the operation is performed, with the organ in its abnormal position, that the perceptive power is assisted quite considerably by the squinting eye, not only in the lateral qualitative perceptions, but by markedly increasing the intensity of the fixating eye. Cases are often seen where binocular vision results from properly performed operations, and also many cases where it is impossible to obtain it, even when the eyes were apparently perfectly parallel. It is believed that nearly half or at least one-third of the cases operated upon have binocular vision. It depends, according to some, upon the age at which the operation is performed, or rather at the age of the squint. An early operation stands the best chance for binocular vision, while those cases operated upon late in life, rarely succeed in obtaining it. The object aimed at in an operation should be perfect parallelism and binocular vision; and although there may be considerable amblyopia from the prolonged disuse of the eye, and you may not get immediate binocular vision, it is possible to obtain it by systematic use or exercise of the eye, by binding up the sound eye and educating the affected one at certain hours in the day. Good results from this course are seen in children and young persons where there was considerable amblyopia. In cases where binocular vision cannot be obtained, an operation can only be resorted to as a means of improving the appearance.

According to Stellwag, periodical strabismus is the only kind in which binocular vision ever exists, and consequently the only kind in which tenotomy can be regarded as the true means of

cure. But there are many well-authenticated cases, in which binocular vision, though lost for years, was regained. This is a point upon which too little attention has been bestowed. We are all too fond of operating, simply to get "them straight," and allowing our patient to leave us—perhaps to see him no more, without even a single trial with prisms or glasses, not even thinking of whether the patient sees with one or both eyes. Our object should be to use all our skill, both surgical and therapeutical, to obtain for the affected eye, its share in the act of vision, and not be satisfied with simply rendering the "eyes straight,"—the truth is, too much attention has been paid to it simply as a deformity, and altogether too little to the cause, or even the effect, of the deviation in producing the amblyopia.

It appears somewhat difficult sometimes for the surgeon to diagnosticate which eye is most affected; generally a little thought on the subject will enable him to decide the point. The difference in the visual power of the two eyes should be first examined, and frequently it will be found that the squinting eye is nearly blind. Next examine the abductive and adductive power of the two eyes, according as the case may be convergent or divergent. There are many cases in which the cornea can be almost hid in the inner angle of the eye. Next examine the palpebral fissure; it is sometimes smaller in the affected eye, than in the sound eye, on account of the person closing his eye —especially when he is in a bright light—unconsciously, and to obviate the confused vision, arising from double images.

The pathology of strabismus has recently received a great deal of attention, and has been thoroughly revolutionized and changed. None of the old writers on the eye seem to have comprehended the subject in its true scientific bearings. It is now shown, that in its early stages, it is merely a symptom, having intimate relations with the functions of the eye, as an organ of vision, and, in time, that it may cause the total extinction of the visual power. The power of the organ to see gradually declines, because the visual axes cannot be brought to bear upon the same point simultaneously. This causes confusion of vision; images being formed upon parts of the retina which do not cor-

respond; and to prevent this confusion, arising from double vision, binocular vision is dispensed with. The image formed upon the retina of the affected eye, being received at some point less favorable than the macula lutea (the visual axis corresponding to lines drawn from the macula lutea, in each eye, through the optic center, towards the object looked at), is disregarded in the sensorium; and so it continues until vision is extinct, from a lack of exercise. Nearly all the cases of convergent strabismus are caused by the anomaly of refraction, known as hypermetropia—a condition of the eye in which the antero-posterior diameter is shortened; the principal focus for the rays of light coming from distant objects is not made on the retina, but behind that membrane. This is the true opposite of myopia. For many years, presbyopia was supposed to be the true opposite of myopia; but it has been shown by Donders, that presbyopia is occasioned by an increase of hardness in the crystalline lens, so that its form can no longer be changed, and its convexity be readily increased by the action of the ciliary muscle, which causes a recession of the new point of sight, while the refractive power for distant objects remains undiminished.

Prof. Donders was the first to make known the fact, that this condition of the eye gives rise to convergent strabismus. A person affected with hypermetropia depends upon his accommodative powers for distinct vision, either near or distant. Accommodation consists in the action of the ciliary muscle causing a change in the curvature of the crystalline lens, thereby changing the condition of refraction. Now, keeping in mind the fact, that in hypermetropia, the eyeball is shortened, and, in looking at near objects, the patient tries to strengthen his powers of accommodation, by increased convergence of the axis of vision, and the increased exercise which the internal rectus gets during this forced convergence, being almost constant, soon increases the strength of the muscle, and produces spasm; and the strabismus, at first occasional, finally becomes permanent; and, in accordance with this, we find that convergent strabismus oftenest begins to show itself in children,

at about three or four years of age, when they first begin to use their eyes much upon near objects. And it has also been observed, that in those portions of the country where but little attention is given to the education of the young, and where there is no necessity for using the eyes much upon near objects, that convergent strabismus is much less frequent than in the cities and towns, where considerable attention is given to the education of the young. Hypermetropia is frequently hereditary, and it is a common circumstance to find several members of the same family affected with it; and this will also account for the popular belief that strabismus is caused by imitation, or by the child looking at some older member of the family who has strabismus. Nine members of one family were all affected with strabismus; and according to the popular belief of the family and friends, each one acquired it from imitating or looking at the next older one. Not every person who is hypermetropic has strabismus. According to Donders, not even persons with the same degree of hypermetropia, and of the same occupation, in fact, only a small percentage of hypermetropes squint. It requires only the milder forms of hypermetropia to produce strabismus, and it is seldom, if ever, found in the higher degrees. This is for the reason that the power of accommodation is insufficient to produce a perfect image upon the retina, and the patient accustoms himself to gain correct ideas from imperfect representation, rather than improve them by a maximum of effort (Donders). Convergent strabismus is also, though rarely, caused by a myopic form of the eyeball. Myopia is that form of the eye in which its antero-posterior diameter is elongated, and the retina is situated behind the main focus; parallel rays, coming from distant objects, converge in front of the retina, in the vitreous humor. Where convergent strabismus occurs, it is only in the milder forms of myopia, and when the eyes are continually employed with small objects; and on account of the error in refraction, great convergence is required; and, thus, by continued exercise, the internal recti become hypertrophied, and overbalance the external, by increased strength. Now, in the stronger degrees of myopia,

the necessary convergence is generally very difficult, and the patient fixes near objects with but one eye; and this is the reason why convergent strabismus is confined to the milder forms of myopia.

Convergent strabismus also results from paralysis of the rectus externus. When this is the case, the external rectus undergoes structural changes, and alters the original conditions of association, and, consequently, although the paralysis may be cured, the internal rectus remains the same contracted muscle. Cases where the eye turns upwards or downwards are probably always caused by this condition. Opacities of the cornea sometimes produces a convergent strabismus. It is commonly said, that the eye seeks this position, to bring some transparent portion of the cornea into the axis of vision, so that binocular vision could be preserved. But this is evidently a mistaken view; for if such cases are carefully examined, it will be found that no binocular vision exists, and that the affected eye is of no use to the patient, in any position whatever, and that it has probably never been used in the act of vision, since the opacity made its appearance. The opacity probably interfered with the correct vision, and the eye was converged, simply to prevent confusion, or diplopia, and remained so. It is also a common belief that strabismus is sometimes caused by the retina becoming insensible, in certain spots, and that the eye converges to bring some more sensitive spot into the axis of vision. This, also, is a mistaken view; as, in such a case, the point of convergence for rays of light would not correspond on the retina of the two eyes. The vision would be confused, and the affected eye would be thrown aside, only one eye being used in vision.

Divergent strabismus is that form of the affection, in which the deviation is outwards. It is much more rare than the convergent, occurring in the proportion of about one to twenty of the latter, excepting those cases which occur as a secondary result from an operation for the convergent form. More than two-thirds of all the cases of divergent strabismus originate in a myopic form of the eyeball, which, as stated above, is the

opposite of hypermetropia. It is said that this form of strabismus does not appear until later in life than is usual for the convergent. Myopia is frequently caused by a posterior staphyloma, or a relaxing of the posterior walls of the globe, thus giving to the eye an elongated shape and increasing its antero-posterior diameter, interfering materially with the actions of the muscles. It is plain that they must act at a great disadvantage on a globe, of nearly the same shape as the orbital cavity itself. In examining near objects, a greater convergence is required, in proportion as the object is brought nearer to the eye; and, in myopia, the eyes are kept in a constant strain, in the attempt to keep up the necessary convergence, until a tireing of the internal recti takes place, and we have a condition known as asthenopia. It is then impossible for the eye to further participate in the attempt at convergence, and, hence, but one eye is employed in the act of vision; and the other eye is allowed to deviate outwards, because he finds that the attempt to keep up the convergence only induces weariness of the internal recti and of the ciliary muscle, without actually attaining the advantages of binocular vision (*Williams*). If the myopia is progressive and increases rapidly, the internal recti are certain to become tired out, and the divergence to occur. But, on the other hand, if the myopia increases very gradually, the internal recti may gain so much power, by their exercise in convergence, that they meet the demand made upon them without difficulty. At first, the divergence shows itself only when the eye is used upon very near objects, or when the internal rectus is very much enfeebled from use. But as the enfeebled condition of the internal rectus becomes greater, the divergence becomes more decided and permanent. This is owing to the strong efforts required in convergence, calling into play an act of accommodation, on the part of the ciliary muscles, which brings the far point yet nearer, and renders the perception of objects less clear. This not being pleasant to the patient, he endeavors to avoid it by giving up binocular vision and contenting himself with a clearer image, formed by a single eye. He encourages an outward deviation unconsciously, so

that he may not be annoyed by double images, which constantly trouble him, in his efforts to produce convergence, sufficient to have an image upon corresponding portions of the retina of the two eyes.

Much has of late been said in relation to the cure of this affection. In cases caused by the anomalies of refraction, great attention should be paid to the cause of the strabismus. Some of the best authorities recommend a prophylactic treatment, directed immediately to the causes producing it. When hypermetropia is a cause, the disease makes its appearance when the child first begins to use its eyes upon near objects, at about four or six years of age. Prophylactic treatment consists, *first*, in *preventing* the child from using its eyes upon near objects, and allowing it to be taught reading, writing, seeing, etc., etc., at a later period; and, *second*, in neutralizing the hypermetropia with a suitable convex lens; not allowing the tender age of the patient to prevent the use of such glasses. Strabismus may be prevented in this way, and cases of periodical strabismus entirely cured. Heretofore, it must be acknowledged too little attention has been paid to the causes of strabismus. It has been considered too much as a mere deformity, as simply a contracted muscle, and has been treated accordingly. From what is now known of the nature of strabismus, it is believed that many cases may be cured simply by lessening the work of the internal rectus, which can be accomplished by modes of amusement or study, in which the eye will receive exercise. Even if it has become permanent, it may sometimes be rectified, when not of long standing, by simply keeping away the exciting causes which originally produced the deviation; or, at least, the angle of the squint may be considerably lessened. It is not an unfrequent occurrence to meet persons who squinted badly in their younger days, but have overgrown it, and whose eyes are now quite, or nearly straight; but an examination will show most of them to be blind in the affected eye. Such cases are those who have used correcting glasses in season, or have given up the use of their eyes upon near and small objects, continued reading, writing, etc. There is no doubt that

many cases, if seen in time, might be treated successfully. The old plan of black spots upon the temples, and, also, of spectacle goggles, with the inner half of the glass opaque, the design being to cause the patient to look outwards, is of no benefit whatever, and, in fact, will have a stronger tendency to aggravate the disease and make it worse than to cure it. The ordinary method of curing strabismus at present, after all other methods have failed, is to perform tenotomy, upon the tendon of the contracted muscle.

This operation was first performed in 1737, by the celebrated charlatan oculist *Taylor*, who pretended to the world that he had miraculous powers. He had announced in the *Mercure de France*, June, 1737, "Dr. Taylor, oculist to the King of Great Britain, has just arrived in Paris, residing at the London Hotel, Dauphine Street, where he will remain until July, when he goes to Spain. He asks us to publish the discovery which he has made of the rectification of squinting eyes, by means of a simple and almost painless operation, unattended with any danger of accident." It is conceded by the best authorities, that his operation consisted in the division of the lateral recti muscles. *Huerman*, of Leipsic, on the "Newest Surgical Operations," condemned the operation; and it was entirely abandoned from that period, until, in 1838, when Stromerger, of Hanover, published a paper upon the subject. He said he had not performed the operation upon the living subject, but had demonstrated its feasibility upon the cadaver. And in October, 1839, the first operation for strabismus was performed by Dieffenbach and Curiver, simultaneously; although the united voice of the profession awards Dieffenbach the honor of performing the first operation. After this, the operation, although at first enthusiastically taken hold of, fell into some disrepute, on account of the signal failure of several eminent surgeons. Velpeau failed in six or eight cases; and the French surgeons were on the point of abandoning the operation as a failure, when Phillips, an English surgeon, came to Paris, and finding this state of affairs, he performed the operation upon several cases, with the most triumphant success, in the presence of the Academy of

Medicine. Amusart, Lallemand, Pinel, Grandschamp, Lisfranc, and Velpeau were all present, and witnessed the operation, and the Academy unanimously accorded its favor.

There are many modifications of the operation; and to do it really well—to liberate the eye with certainty and in an efficient manner, so as to secure the utmost benefit capable of being conferred, at the smallest possible cost of suffering and inconvenience to the patient—requires much more dexterity, neatness, and address than is commonly believed. Every tyro in surgery thinks he can perform it with success; but the truth is, but very few succeed in getting a good result in any great number of cases, until they have attained a delicacy and excellence to be got only from operating upon a large number of cases. But very few have ever performed the operation to any extent, who have not had their "*only partial*" successes, or total failures, or who have not occasionally made the eye look much worse than the original deformity, by an unskilfully performed operation. This may, however, be partially avoided by a minute knowledge of the anatomy and pathology, and also of each of the steps in the operation.

The question as to what age is most suitable for this operation, is one of some importance. The highest authorities disagree in regard to it. Some prefer to operate at from four to six years of age, because at this period the child is first using its eyes upon near objects, and that one or both eyes are apt to suffer from disease, by being thrown to one side, thus producing amblyopia; while it is claimed by others that the eyes are apt to diverge when operated upon at so young an age, and that it is better to risk the amblyopia, and wait until the strabismus has become more permanently established, and in the meantime make use of all the prophylactic measures possible, and thus try to cure the case without tenotomy. If an operation is performed at six years of age, the cause still exists, and the patient would suffer from diplopia. Stellwag recommends the prophylactic treatment to be continued for years, and that a patient may grow out of a confirmed strabismus. The operation should be postponed until at least nine or ten years of age. Nothing can be gained by an early operation.

Tenotomy may be performed in any kind of weather, without regard to season, or any material preparation on the part of the patient. An anæsthetic may, or may not be given, according to circumstance. The operation can be performed with much greater certainty of success, and better satisfaction to both patient and surgeon, without it. The patient can co-operate with the surgeon, and assist him in obtaining a perfect result; whereas, under the influence of chloroform or ether, the patient does not co-operate with the surgeon, and it is impossible for the surgeon to tell what effect he has produced until the patient wakes up, and he finds frequently that he has either done too much or not quite enough, and he must administer more of the anæsthetic, or else wait and make another operation.

In regard to the position of the patient, the best is for him to sit up, perfectly erect, with the body inclined a little towards the operator, and an assistant standing behind to steady his head, and to hold it in the proper position. The patient's hands must be close down by his sides. Holding tightly to the chair in this position, with his mind made up to endure the pain with fortitude, there is generally but little trouble in getting an excellent result.

The instruments required for this operation are as follows: Pair of mouse-toothed forceps, a spring-wire speculum for holding open the eyelids, a pair of small sharp scissors (either curved or straight), and a blunt hook. These four instruments are all that are necessary. The speculum should be introduced, and the lids separated. A small fold of the conjunctiva should be caught up with the forceps near the lower margin of the rectus muscle, and a very small incision made in it with the scissors, and the scissors should then be pushed in and be made to separate the conjunctiva from the capsule of Tenon which is adherent to the muscle or tendon, as well as to the conjunctiva. After the separation is completed, the blunt hook should be introduced, and the tendon pulled down, and with the scissors it should be divided up close to the sclerotic. The speculum should then be taken from the eye, and the organ bathed with cold water, and allowed to rest a while; after resting it should be examined,

and if it is not straight then the patient resumes his position, and the speculum is introduced. The blunt hook is then swept under the conjunctiva, and other muscular fibres, or the parts which continue to hold the eye in its abnormal position, are dragged down to the little opening in the conjunctiva, where they are divided with the scissors, as before, and so on, until the eyes are in a suitable position. Sometimes it is necessary to have the patient sit four or five times, and allow this process to be repeated. Sometimes persons are found where it is impossible to bring the eyes perfectly parallel at one operation. In such cases it is necessary to perform two operations, with several weeks or months intervening between them. After the operation, no treatment is generally necessary, as the parts will recover their natural whiteness and appearance in about fourteen days. It is important to make as small an incision in the conjunctiva as possible; too free division of the conjunctiva would have the effect of allowing the eye to protrude, and appear larger than the sound eye. This abnormal prominence can not be remedied. Too free division of the conjunctiva may also allow the eye to diverge, this giving rise to the opposite deformity. As a rule, it may be depended upon, that the smaller the incision through the conjunctiva the better, especially in the slight forms of strabismus. When the tendon has been divided close up to the sclerotic, it slips backwards, and unites again to the sclerotic a few lines back of its original attachment, (according to the degree of deviation).

It is the practice of some surgeons to use leather spectacles or goggles, made expressly for strabismus cases, just after the operation, so as to insure success by keeping the eyes straight, or, if they are not perfectly straight, to bring them so. The spectacles are made of dark or opaque glass, with a hole in the centre to admit the light, or if, from an accident in dividing too much tissue in the operation, the eye should diverge a little, the aperture is made more internal, to cause the eye to turn inwards, and thus bring the eyes straight. This is totally useless and unscientific. I cannot see how any one, understanding the nature of strabismus, could resort to such a practice. With

such spectacles, the patient could use only one eye, just as he did before the operation, and the aperture in the spectacle would remain unnoticed.

A frequent result of the operation is sinking in of the caruncle, so as to present an ugly little pit or depression at the inner canthus. This is caused by the tendon and conjunctiva both being attached to the capsule of Tenon, which is connected anteriorly with the conjunctiva and posteriorly with the tendon, forming a sheath for it. When the tendon is divided, the muscle contracts and draws the capsule with it; and if the conjunctiva is allowed to remain in connection with it, it pulls it back, and the caruncle of course would go with the conjunctiva. The only way in which to avoid this, is to make pretty free division between the conjunctiva and capsule before the tendon is divided.

There are many modifications of the operation for strabismus, but the one described is that usually performed by a number of the best surgeons, and is the one best calculated to give good results in the largest number of cases. The operations are all described in the standard works on the eye. The literature of the operations for strabismus is perfectly enormous.

Now, after the operation has been performed, we generally leave the original cause in existence; and the question is, what shall be done to prevent a return of the affection. Many cases of convergent strabismus have their vision very greatly improved immediately after the operation. No doubt that in these cases, the hypermetropic shape of the eyeball is relieved by the tenotomy freeing the eye from the tension of the internal rectus. I have had many patients who have experienced very great improvement in vision immediately after the operation is performed. The practice of using glasses after the operation, has never received the attention it deserves from the profession. There are certainly a large number of cases which would derive great benefit from the use of glasses, and especially cases of divergent strabismus dependent upon progressive myopia. In such cases there is an imperative demand for concave glasses, because they not only very greatly improve the patient's vision,

but they also have a tendency to arrest the course of the disease, which consists in a thinned or relaxed condition of the posterior walls of the eye, and a consequent protrusion backwards, constituting posterior staphyloma. It is also best to use convex glasses in cases of convergent strabismus, for by this means we have the best chance to secure the neutralization of the anomaly of refraction, and also to secure binocular vision.

ARTICLE XIX.

CASE OF INVERSION OF THE UTERUS, TREATED SUCCESSFULLY BY ELASTIC PRESSURE.

By W. H. BYFORD, A.M., M.D., Prof. of Obstetrics in Chicago Med. College.

Mrs. H. N. H., aged 22 years, was confined with her third child, at 8.30 o'clock A.M., on the 9th of March, 1870. The labor was about four hours duration. The placenta was expelled spontaneously, in about half an hour after the child. Very little blood accompanied the placenta. As usual, the hand was placed over the hypogastric region, in order to ascertain the condition of the uterus. The organ was large and soft, and in 15 or 20 minutes after the delivery of the placenta, a copious hemorrhage commenced, but was easily controlled by grasping the uterus, through the abdominal wall. The contractions resulting from this treatment were prompt and obvious. I remained with the patient something like an hour and a-half, when the hemorrhage was completely controlled and the uterus well contracted. At 12 o'clock, I was summoned by a messenger from the patient, with the information that she was flooding copiously. When I arrived, I found her prostrated very decidedly by loss of blood, and still bleeding. The uterus was large, reaching above the umbilicus, and very soft. Pressure and grasping caused it again to contract and throw out a large quantity of coagula and fluid blood. Fluid extract of ergot was administered as soon as it could be procured, cold applied to the urethra, and continued pressure kept up. The hemor-

rhage soon entirely ceased, the uterus contracted well, and the contractions were painful more than ordinarily. The hemorrhage did not return, but the patient had already lost so much blood, that she was very greatly prostrated. The pulse was weak and rapid, perhaps 120 strokes to the minute. Upon the slightest exertion, a sense of fainting was produced. She remained prostrated, so as to require stimulation and concentrated nourishment for 36 hours. From this time gradually rallied, and in 20 days was able to sit up some, while the pulse had regained its volume and usual frequency. From this time, she improved quite rapidly, and, in four weeks, was riding and even walking about the streets some, with no special discomfort. The lochia was still somewhat copious, but colorless, and "watery," as she expressed. On the 25th, the lochia was so abundant that I was led to make an examination. I found the cervix large and soft, but otherwise there was nothing unusual. The uterus could still be felt above the pubis. On the 28th, I left the city for two months, and, consequently, did not know anything of her condition personally, until I returned on the 5th of June, and, consequently, rely upon her account of the progress of things.

She informed me that she continued to improve, and, as above stated, in about four weeks, was riding out, and walking about the house, and on the street, without inconvenience, except such as arose from debility, and that was not very considerable. On the 14th or 15th of April, while sitting on the vessel vomating, she experienced slight tenesmus, and felt something pass out between the labia. Placing her hand upon the parts, she discovered a protrusion. She passed it back and sent for a physician. It was through the examination made at that time that she was found to have an inverted uterus. She was treated with sitz-baths and astringent injections into her vagina, for three or four weeks, when she was pronounced cured, and discharged. When I returned home, I saw her on the 5th of June, and found the uterus inverted. It was about the ordinary size of the unimpregnated organ, and inverted all but the vaginal portion of the cervix. The density of the

anterior walls and cervix seemed rather less than natural. Since she first discovered the protruding organ, the patient had been subject to small losses of blood, and between these, a serous or watery, and sometimes mucus discharge from the vagina. Her general condition was tolerably good, although she had not entirely recovered from the debility caused by the copious hemorrhage.

After lifting up the uterus as much as I could with two fingers, I placed an elastic bag under it, so as to make pressure upward and slightly forward, in the direction of its axis, and filled with tepid water, until the patient complained of severe, inconvenient pain, from distention. She was directed to remain in bed, and the instrument was left in place until the next day. The water was then allowed to flow out and the parts examined. I could discover no change in the condition of the uterus. The bag was again filled and the distention made as great as the patient could well bear. Upon emptying it again, on the third day, relaxation of the cervix was quite evident, and I felt encouraged to expect success. On the fourth day, the relaxation was so decided, that the fundus could be almost passed up into the os with the fingers. On the fifth day, when the water was again allowed to flow off, the uterus was found to have returned to its natural position. The patient was directed to remain in bed still, and the instrument removed from the vagina. On the sixth day, I passed my probe through the os uteri, two and a-quarter inches, showing that the fundus was thoroughly restored to its shape and position. The patient remained in bed for two days more, and then gradually resumed her exercise until, on the 22d of June, she attended the wedding of one of her friends. This case is remarkable from the manner of occurrence and for the ease with which the reduction of the inversion was effected. I think the last fact shows a very pliable condition of the organ, and, to some extent, explains the method of the accident. With reference to this, it is quite evident that the time of the completion of the inversion must have been the time of its discovery; for if the process of involution, at that late period, was so imperfect, as that the

uterus was large enough to pass, in considerable size, beyond the labia, it is reasonable to suppose, that had it been completely inverted before, it would have made its appearance before and hence attracted the attention of the patient. When I first saw her upon my return, the involution appeared to be complete, and the organ was distant from the vaginal orifice. It certainly was not inverted at the end of three weeks from labor, and it was unquestionably larger at that time than usual. I do not believe that there was indentation, or anything indicating the commencement of the process of inversion, on the 25th of March, when last I saw her before the accident. I am glad to have an opportunity of recording this case, as showing the great efficiency of elastic pressure, in the correction of the condition. It was very evident, from the daily observation of the case, that the reduction was effected, not by indenting the fundus, but by the relaxation of the cervix, and the passage of the whole body and fundus through it, and that the fundus was the last part to be rectified. The last labor of the patient, previous to this, was attended by very copious hemorrhage and almost as great prostration as stated in this; and I think it would not be unreasonable to infer, that my patient only represents a class of patients, in whom the habitually flaccid condition of the uterus predisposes them to the accident.

This case, in many respects, is quite similar to one that occurred in the practice of Dr. A. Fisher, of this city, an experienced, intelligent, and careful practitioner. It is recorded, in the October number of the *Chicago Medical Journal*, for the year 1858. Dr. Fisher discovered the inversion on the 18th of May, 38 days after delivery. No symptoms, except slight hemorrhage, indicated anything wrong. The Doctor says: "I made a digital examination, and, to my utter astonishment, found the uterus completely inverted, the fundus resting on the peritoneum." Dr. N. S. Davis, who was called to see the patient, in consultation with Dr. Fisher, regarded it as a case of spontaneous inversion, and said, in reference to it, in an editorial, in the same number of the *Journal*, "I questioned both the patient and her mother carefully and minutely, in

regard to what transpired at the time of confinement, and I elicited no facts differing from the statements given by Dr. Fisher."

ARTICLE XX.

CEREBRO-SPINAL MENINGITIS, OR EPIDEMIC PNEUMONIA.

By D. A. SHEFFIELD, M.D., Apple River, Illinois.

During the last Spring, a deep impression has been made upon my mind, which has terminated in a question, an answer to which I am unable to find, either in books treating upon the subject, or the judgment of my fellow-laborers. The question is this: Is it possible that Congestion of the Lungs, with complications, may become Epidemic? It was my intention to have brought this question before the State Medical Society at its last session, but a desire to listen to the opinions of older and more experienced men, on topics of vital interest to the profession, determined me to submit the matter to you privately. The causes which have united to raise this inquiry in my mind, were the loss of quite a number of patients—all children—within a few weeks of time, from what I cannot avoid believing to have been Epidemic Pneumonia, complicated by Cerebro-Spinal Meningitis. All the patients I was called upon to visit during a period of about three weeks, and who had been first attacked by Pneumonia, invariably showed symptoms so strongly resembling those of which I had read of as presenting in Cerebro-Spinal Menengitis (never having seen an unmixed case), that, although I could not obtain a *post mortem* examination, I have no doubt of the pathological condition. A larger ratio of mortality attended these cases than I have ever had in any epidemic before. The history of one case will be sufficient for the whole, as their similarity was very remarkable.

Ella J——, aged 7 years, seized on the night of February 8th, 1870, with what was thought to be ordinary Congestion of

the Lungs. Was called to see the case almost immediately after the attack. Symptoms: Extreme dyspnœa; pulse 120; tongue moist, and covered with a thin cream-colored coating; skin moderately dry; urine scanty and high colored; a suppressed, muffled cough, so constant as to keep the patient in constant agitation. Gave as follows:

℞. Sub. Mur. Hyd. ---------- 6 grs.
Pulv. Ipecac et Opii, } āā, ----------12 grs.
Potassa Nit. Pulv., }
Fiat in Chart.,---------- 6 grs. M.

Dose—One powder every fourth hour, alternating with *three* drops of tinct. veratrim viride in one-half a teaspoonful of spts. nit. dulcis. Also ordered a corn-meal poultice, into which had been stirred pulv. pimento, to be placed over the whole anterior part of the chest. This course was pursued for twenty-four hours, at the end of which time, saw the patient again. Symptoms: Tongue heavily loaded with a coating of a brownish color; pulse 130; urine passed twice, but scanty; lips parched and cracking; eyes suffused and secretions rapidly accumulate in the inner canthi; sub-mucous ronchus over almost the whole extent of both lungs, yet the cough is dry and harassing.

Treatment: Ordered, immediately, a full dose of castor oil, with one-half a drachm of oil of turpentine. Also gave the following:

℞. Sub. Mur. Hyd.,---------- 6 grs.
Pulv. Ipecac et Opii, } āā, ---------12 grs.
Potassa Nit. Pulv., }
Antimony et Pot. Tart.,----------ss. grs.
Fiat in Chart.,---------- 6 grs. M.

Dose—One powder every fourth hour; continue tr. veratrum as before, except that the dose be increased to *four* drops. The corn-meal poultice, containing pulv. pimento as an irritant, continued over the anterior part of the chest.

The following day, gave about the same train of symptoms, excepting that *sordes* collected rapidly on the lips and teeth. Patient perfectly rational when awake, but muttering while asleep.

February 11.—Patient suddenly began to exhibit symptoms of cerebral disturbance. The pupils do not readily respond to light; head continually rolling from side to side; the hands in constant motion; severe pain in the neck and occipital region, complained of only at times; tongue and secretions much the same as on the two previous days. Treatment as follows:

℞. Tr. Rhei,---------- ℥j.
Magnesia Carb.,---------- ℥j.
Syr. Ipecac,---------- ℥ss.
Spts. Nit. Dulcis---------- ℥jss.

Mix. Dose—One teaspoonful every three hours. The whole length of the spine, from occiput to sacrum, ordered to be rubbed freely and frequently with the following:

℞. Oleum Olivia,---------- ℥jss.
Oleum Succini,---------- ℥ss.
Oleum Caryophylli,---------- ℥j.
Aqua Ammonia, } āā,---------- ℥ss.
Spts. Camphora, } Mix.

February 12.—Symptoms indicate no improvement in the condition of the patient; cerebral disturbance greatly increased; pupil immovable to strong sunlight; patient continually in a comatose state; natural evacuations all ceased. Treatment: Ice-bags to be applied to the head; sinapisms to the feet; and a cantharides blister to the neck, reaching from the occiput to the first dorsal vertebra. From this time the patient gradually sank into profound coma, in defiance of all the medication my counsel and myself could devise, until death occurred on the seventh day after the attack. On the day of the little girl's death, another child in the same family, aged two years, was smitten, and died on the third day after the attack; the parents refusing to employ medical aid; but I am told by the father, a gentleman of intelligence, that the symptoms in this case were precisely similar to those in the case detailed above, differing only in the rapidity of their succession.

This case illustrates fully ten others that came under my treatment, only two of which recovered.

I have a most painful recollection of a like epidemic (?) of Pneumonia and Cerebro-Spinal Meningitis, that occurred in this locality in the Spring of 1863, having, at that time, lost an only child by it. At that time it was also extremely fatal, not only in my own practice, but in that of my colleagues. All of the children attacked with this disease in 1863, and also in 1870, were less than ten years of age.

A curious circumstance, which I may mention in this connection, is the fact that, following both these epidemics, Pneumonia, in an exceedingly fatal form, attacked many of the lower order of animals, especially the horse; while at the same season, in other years, the disease among animals is comparatively unknown.

ARTICLE XXI.

ATROPIA *VERSUS* OPIUM.

By THEODORE GRIFFIN, M.D., 582 State Street, Chicago.

It is well established that the physiological effect of belladonna, and its alkaloid atropia, upon the human system is directly antagonistic, and opposite to that of opium and its alkaloid, morphia. We infer, therefore, that these drugs, if taken at the same time into the stomach of an individual, must neutralize the effects of each other; and this inference is well sustained by the abundant testimony which the experience of the past few years has given us. It is altogether probable that in belladonna we have found the most reliable antidote for poisoning by opium. The object of this communication is to add another link to the great chain of accumulating testimony in its favor.

In June last, I was called to see a person who was said to be dying. I hastily answered the summons, and found my patient rapidly sinking into a comatose condition; answered questions incoherently and in a whisper; cannot protrude his tongue; pupils much contracted; pulse 110 and weak; respirations six

per minute; learned that the individual had recently taken 12 grains of opium. I at once ordered the administration of stimulants, friction of the extremities, sinapisms, with all auxilliary measures usually applied in similar conditions. He continued to sink, is now entirely unconscious; conjunctiva insensible to the touch; stertorous breathing; extremities cold and clammy; capillary congestion of the surface; respirations are now but three and four per minute, short and irregular, often no respiration during one-half minute, with three short, irregular ones during the following half minute; I believed the patient dying. Ordered, sulph. atropia, gr. j, aqua, ℥j, mix. Of this I injected at the point of insertion of the deltoid muscle, four minims, and in 15 minutes I repeated the injection; making the amount used 1-24 of a grain of the sulphate. I now discontinued all other means, and ordered the patient to be let alone. In half an hour the pupils began to dilate; in one and a half hours moderately dilated; in three hours pupils widely dilated; respirations five and six per minute, extremities warm, capillary congestions gone from the surface. At 12½ o'clock P.M., five hours from the period of injecting and two hours from the last recorded observations, conjunctiva responds to the touch, respirations nine per minute, pulse 100 and full, pupils well dilated, and all his symptoms much improved. At 3 P.M., nine hours from the time of the injection, awakes with a nervous start, and recognizes his friends; respirations 13 per minute, pulse 94; feels well.

I have no remarks to make as to the probable antidotal effects of the atropia in this case, it is too palpable to require discussion; from the extremest degree of prostration and impending death, the patient was raised to life.

Proceedings of Societies.

ILLINOIS STATE MEDICAL SOCIETY. TWENTIETH ANNIVERSARY MEETING, Held in Dixon, May 17th and 18th, 1870.

The delegates and members of the Society assembled in the Court House, and were called to order at 10½ A. M., by Dr. G. W. Albin, of Neoga, 1st Vice-President, who, in the absence of the President, took the chair.

Dr. O. Evarts, Chairman of the Committee of Arrangements, welcomed the members of the Society to the hospitalities of the profession and the people of Dixon; and Dr. J. C. Corbus, Secretary of the same Committee, read the following list of the names of those who were present and registered by the Committee:

Delegates.

Drs. N. S. Davis, R. N. Isham.—*Chicago Medical College.*

Drs. James M. Morse, M. H. McClelland.—*Military Tract Medical Association.*

Drs. James Murphy, J. Perine Johnson, Jas. L. Hamilton.—*Peoria City Medical Association.*

Dr. David Prince.—*Morgan County Medical Society.*

Dr. R. G. Bogue.—*Chicago Medical Society.*

Dr. D. L. Holmes.—*Chicago Charitable Eye and Ear Infirmary.*

Dr. D. L. Crist.—*McLean County Medical Society.*

Drs. G. W. Phillips, G. W. Hewitt.—*Lee County Medical Society.*

Dr. Samuel J. Jones.—*St. Luke's Hospital of Chicago.*

Drs. E. P. Cook, J. C. Corbus.—*Union Pathological Society of La Salle and Adjoining Counties.*

Permanent Members.

Dr. G. W. Albin, of Neoga.

Dr. E. R. Willard, of Wilmington.

Dr. R. S. Higgins, of Vandalia.

Dr. James S. Whitmire, of Metamora.
Drs. Charles Hunt, O. Evarts, of Dixon.

The Committee of Arrangements also recommend for election as permanent members: Drs. T. W. Miller and J. F. Williams, of Chicago, and Dr. J. W. Hinsey, of Yates City, and they were unanimously elected.

A communication was received and read from Prof. J. V. Z. Blaney, President of the Society, stating that severe illness alone prevented his being present at the meeting.

Dr. N. S. Davis explained the absence of the Permanent Secretary, and was requested to act in his place by a vote of the Society.

The Treasurer being also absent, on account of sickness, Dr. E. P. Cook, of Mendota, was appointed Treasurer *pro tem.*

Drs. W. W. Wynne, Henry E. Payne, D. W. Law, and G. A. Bardwell, of Dixon, were duly proposed and elected permanent members.

Reports from the Standing Committees being in order, were called, with the following result:—

Committee on Practical Medicine and Epidemics.—Dr. C. Goodbrake, Chairman, absent.

Committee on Surgery.—Dr. Moses Gunn, Chairman, absent, but sent an explanation that he had a report partly prepared, and asked leave to finish it, and transfer it directly to the Committee of Publication. A motion was made to grant the request, but it being objected to on the part of several members that such a course would afford a bad precedent, the matter was referred to the Committee on Nominations.

Committee on Obstetrics.—Dr. Elias Wenger, Chairman, no report.

Committee on Drugs and Medicines.—Dr. Charles Hunt, Chairman; report ready and made the special order for $2\frac{1}{2}$ o'clock P.M.

Committee on Necrology.—Dr. J. H. Hollister, Chairman; no report, on account of severe and protracted sickness.

SPECIAL COMMITTEES.

On Criminal Abortion.—Dr. DeLaskie Miller, Chairman; no report.

On Ophthalmology.—Dr. J. S. Hildreth, Chairman; no report. Dr. E. L. Holmes, a member of the same Committee, had prepared a report, which was made the special order for 3½ o'clock P.M.

On Pulmonary Tuberculosis.—Dr. J. P. Ross, Chairman; no report.

On the use of Plaster of Paris in Fractures.—Dr. R. G. Bogue, Chairman; report ready, and made the special order for 5 o'clock P.M.

On Otology.—Dr. Samuel J. Jones, Chairman; report ready, and it was made the special order for 11 o'clock A.M., to-morrow.

On Communication from the American Medical Association.—Dr. N. S. Davis, Chairman; report ready, and made the special order for 10 o'clock A.M., to-morrow.

On motion of Dr. N. S. Davis, a Special Committee of three were appointed to revise and publish a new edition of the Constitution and By-Laws. The President appointed the two Secretaries and Treasurer as such Committee.

On motion of Dr. N. S. Davis, the annual assessment for the expenses of the Society was fixed at $3.00.

On motion of Dr. S. J. Jones, the Society adjourned to 2 o'clock P.M.

AFTERNOON SESSION.

The Society was called to order at 2 o'clock P.M., Dr. G. W. Albin in the Chair.

The members of the Society for the several Counties having selected their candidates for the Nominating Committee, the names were read by the Secretary as follows:—

COMMITTEE ON NOMINATIONS.

G. W. Albin, M.D., of Cumberland County.
R. T. Higgins, M.D., of Fayette County.
J. M. Morse, M.D., of Knox County.
J. C. Corbus, M.D., of La Salle County.

S. J. Jones, M.D., of Cook County.
John Murphy, M.D., of Peoria County.
E. R. Willard, M.D., of Will County.
James S. Whitmire, M.D., of Woodford County.
D. L. Crist, M.D., of McLean County.
D. E. Foote, M.D., of Boone County.
D. Prince, M.D., of Morgan County.
G. W. Phillips, M.D., of Lee County.
J. O. Hamilton, M.D., of Jersey County.
J. P. McLanahan, M.D., of Mercer County.
W. D. Sterling, M.D., of Warren County.
C. C. Lattimer, M.D., of Bureau County.
D. W. Young, M.D., of Kane County.
D. A. Sheffield, M.D., of Jo Davies County.
Samuel C. Plummer, M.D., of Rock Island County.
M. W. Walton, M.D., of Stephenson County.
H. C. Donaldson, M.D., of Whitesides County.

Dr. Evarts, Chairman of the Committee of Arrangements, introduced to the Society Col. Dement, Mayor of the city of Dixon, who, after some very appropriate remarks, extended an invitation to attend a *Picnic* in Mr. Charter's Grove, on the afternoon of Wednesday, and a party at the Wachusett House in the evening. The invitation was given in behalf of the city authorities and citizens of Dixon.

The Vice-President, Dr. Albin, responded cordially to the Mayor; and, on motion, the proffered hospitalities were accepted.

The Secretary of the Committee of Arrangements reported the names of several physicians as suitable for election as permanent members, and they were unanimously elected as follow:—

D. A. Sheffield, M.D., of Apple River, Ill.
R. W. Shaw, M.D., of Ashton, Ill.
E. R. Travers, M.D., of Amboy, Ill.
J. B. Felker, M.D., of Amboy, Ill.
C. C. Lattimer, M.D., of Princeton, Ill.
G. W. Crossley, M.D., of Princeton, Ill.

The Secretary of the same Committee reported the names of the following delegates and permanent members as having registered since previous report:

M. M. Robbins, M.D., of Aurora, Fox River Valley Medical Association.

Geo. J. Munroe, M. D., of Leland, Medico-Pathological Society.

Edwin Powell, M.D., of Chicago, Rush Medical College.

D. W. Young, M.D., of Aurora, Fox River Valley Medical Association.

Sam'l C. Plummer, M.D., of Rock Island, Iowa and Illinois Central Dist. Medical Society.

Jno. P. McGlanahan, M.D., of Norwood, Military Tract Medical Society.

W. D. Sterling, M.D., ———, Military Tract Med. Society.

D. E. Foote, M.D., of Belvidere, permanent member.

J. O. Hamilton, M.D., of Jerseyville, permanent member.

Dr. Chas. Hunt, of Dixon, Chairman of the Committee on Drugs and Medicines, read his report, and the same was received and referred to the Committee of Publication.

Dr. E. L. Holmes, of Chicago, a member of the Committee on Ophthalmology, read a report on the conjunctivitis of infants. The reporter recommended the use of strong solution of nitras argenti in the early stage of the disease.

Dr. D. Prince alluded to the contagious character of the disease, and inquired in reference to the success of compression as a remedy, as advocated by Dr. Hildreth.

Dr. E. L. Holmes replied that recent investigations in large hospitals, had shown that poisoning of the eyes of infants from the vaginal discharge of the mother is not of frequent occurrence. He thought that ordinary catarrhal conjunctivitis, in infants, was very prone to assume a purulent character. In regard to treatment by compression, he would only say that recent authors of the best character do not recommend it. In reply to a question by Dr. Johnson, of Peoria, Dr. Holmes said he would use the strong nit. silver solut. in cases involving ulceration of cornea and danger of sloughing.

Dr. J. P. Johnson, of Peoria, thought the nervous sensibility was less in infants than in adults. He strongly recommended the application of the liquid carbolic acid to the ulcers of the cornea, connected with infantile and purulent ophthalmia, claiming that he had derived the most prompt benefit therefrom.

Dr. S. J. Jones, of Chicago, expressed the opinion that more benefit was derived from scarification applied to the tumefied conjunctiva, than from compression.

After some remarks from Dr. Isham, of Chicago, the report of Dr. Holmes was referred to the Committee of Publication.

Dr. R. G. Bogue read a report on the use of plaster of Paris in the treatment of fractures, which was received and referred to the Committee of Publication.

Dr. Jas. S. Whitmire, of Metamora, one of the members of the Committee on Practical Medicine, read a report on the use of hydrate of chloral in the treatment of cerebro-spinal meningitis; detailing two cases that had been successfully treated in his practice. The report was received and referred to the Committee of Publication.

Dr. D. W. Young, of Aurora, stated that he had written a paper and sent it to the Chairman of the Committee on Practical Medicine, on the practice of venesection in the treatment of pneumonia; but the chairman of the committee being absent, the paper could not be presented to the Society at this time. On motion, Dr. Young was requested to furnish a copy of his paper to the Committee of Publication.

The Special Committee on Criminal Abortions, Dr. DeLaskie Miller, of Chicago, Chairman, made no report.

The Special Committee on Pulmonary Tuberculosis, Dr. J. P. Ross, of Chicago, Chairman, made no report.

Dr. D. W. Young, of Aurora, called up the subject of scarlet fever, and an interesting discussion followed, participated in by Drs. D. W. Young, S. J. Jones, D. A. Sheffield, D. L. Crist, D. Prince, N. S. Davis, E. P. Cook, J. C. Corbus, and R. N. Isham.

From the remarks of these gentleman it was evident that scarlet fever had been more prevalent and severe during the preceding

year than usual. But no new facts of importance were elicited in regard to the pathology or treatment.

Dr. D. W. Young proposed the use of carbolic acid in suppurating wounds, etc., as a profitable subject for discussion during the evening session.

Dr. N. S. Davis spoke of the great importance of keeping written records of cases and their results, alleging that when we trust simply to our general impressions in regard to the results of management in any given form of disease, we are liable to error. He adduced some examples to illustrate his position. The Society adjourned to 8 o'clock P.M.

EVENING SESSION.

The members were called to order at 8 o'clock P.M., Dr. G. W. Albin, Vice-President, in the chair.

The Secretary of the Committee of Arrangements reported the registration of Drs. D. M. Vosburgh, of Earlville, and H. C. Donaldson, of Monmouth, as permanent members. The same Committee recommended the election as permanent members of Drs. Chas. McAllister, of Dixon, M. W. Walton, of Ridott, and Thos. Winston, of Forreston. On motion, they were unanimously elected.

The value of carbolic acid in the treatment of wounds was taken up for consideration. Dr. R. N. Isham, of Chicago, remarked that he did not apply carbolic acid to freshly incised wounds, and does not regard it as beneficial in such cases, where the arrest of hemorrhage and the perfect apposition of wounded surfaces are the principal objects. In contused wounds and compound fractures, in which union is not expected, the acid is valuable as an anticeptic. But in these latter cases, especially when involving gangrene and extensive suppuration, he prefers iodoform, a compound of iodine and chloroform.

Dr. R. G. Bogue, of Chicago, stated that after the introduction of carbolic acid into surgical practice, it was used extensively in the Cook County Hospital, for one year or more, but with such results that its subsequent use has been much more limited. In many of the cases in which it was applied to flaps and stumps after amputation, it appeared to dry up the surfaces

and prevent healthy granulation. Injected into large abcesses, or applied to copiously suppurative surfaces, it lessened the formation of pus, and appeared to do good. At present he did not apply it to the surface of incised or contused wounds, but only as a covering or external dressing.

Dr. D. W. Young, of Aurora, said his experience had been similar to that of Dr. Bogue; but in addition said he had seen a few cases in which he thought it had induced blood-poisoning, and in one case, after it had been used eight or ten days, extensive phlebitis followed, causing death of the patient.

Dr. D. Prince, of Jacksonville, thought the efficacy of carbolic acid and other antiseptics depended on their power to destroy parasitic life. And the practical question to determine is, what strength of these agents will prevent or destroy parasitic life, without injuring the surfaces to which they are applied, or proving detrimental to the patient by absorption. Carbolic acid used of the strength of only three or four grains to the ounce of water, does not prevent union or granulations, but does prevent suppuration and parasitic germs. When applied to old suppurating surfaces, he thought it might be used with benefit much stronger. But when applied to wounds of cut surfaces strong enough to dry the parts or make them look pale or blue, it was injurious and unnecessarily strong. He recommended for application outside of isinglass plasters, a mixture of equal parts of Calvert's solution of carbolic acid No. 4, with a solution of chloride of zinc and glycerine. He thought it not only capable of preventing the dressings from becoming offensive, but also lessening the tendency to suppuration in the wound. He thought a weak solution might be used with advantage as a vaginal wash in obstetrical practice. He also recommended a solution of 16 gr. to the ounce of water, to be used in the form of spray with the atomizer, in cases of putrid sore throat.

Dr. Prince also stated that he had once injected undiluted Calvert's solution of carbolic acid No. 4 into a nevus, and at another time into a lymphatic gland. In both instances it produced extreme paleness of countenance, feebleness of pulse,

coldness of extremities, etc., from which he inferred it to act as a direct sedative upon the system.

Dr. John Murphy, of Peoria, said he had used the acid in almost every stage of suppurative action, with but little benefit; but that its application to recent wounds had been very valuable in preventing suppuration. He used it of the strength of one drachm and one drachm and a-half to the pint of water.

Dr. D. E. Foote, of Belvidere, inquired whether the acid might be used with effect for the destruction of parasites in the stomach and intestines.

Dr. J. S. Whitmire, of Metamora, thought when the acid had acted injuriously on wounds, or with poisonous effect on the system, it was from using it too strong.

Dr. N. S. Davis, of Chicago, stated that he had very little experience in the use of the acid as an application to wounds, but had used it in a variety of cases as an internal remedy. He had found it of great value in arresting vomiting in some cases of pregnancy, and in many cases of gastric irritability, both in children and adults. He had given it with some *apparent* advantage in three or four cases of cancerous disease of the stomach and uterus.

Dr. D. L. Crist, of Bloomington, had used it with advantage in cases of gastric irritation and vomiting.

Dr. J. P. Johnson, of Peoria, had used it in the treatment of wounds, with advantage; also as a local application in syphilitic ozena; and in purulent discharges from the ear.

On motion, the Society adjourned to 9 o'clock A.M.

SECOND DAY.—MORNING SESSION.

The Society was called to order at 9½ o'clock A.M., Dr. G. W. Albin, Vice-President, in the chair.

The Committee of Arrangements presented the following additional names of delegates:

Prof. E. Andrews, of Chicago, from Mercy Hospital.

Prof. H. A. Johnson, of Chicago, from Mercy Hospital.

Prof. E. Ingalls, of Chicago. from Rush Med. College.

The same Committee also reported the following, who were unanimously elected permanent members:

T. L. Carey, M.D., of Lena, Ill.
M. B. Campbell, M.D., of Wilmington, Ill.
W. M. Kaul, M.D., of Limerick, Bureau county, Ill.
J. R. Zearing, M.D., of Dover, Bureau county, Ill.

Dr. N. S. Davis, in behalf of Dr. J. H. Hollister, Treasurer, presented the following report of the receipts and expenditures for the yast year:

Annual Report of the Treasurer of Illinois State Medical Society, for the year ending May, 1870.

Your Treasurer herewith submits his *Ninth* Annual Report, as follows:

J. H. Hollister, *Treasurer*,
In acc't with Ill. State Med. Society.

Dr.

To Balance in the Treasury May, 1869,	$ 86 00
Dues paid by 60 members at the Annual Meeting in Chicago,	240 00
Dues by mail as result of personal correspondence,	80 00
Total	$406 00

Cr.

By account paid Fergus' Sons for printing Transactions for 1869,	199 06
Balance in the Treasury May, 1870,	$206 94

Dr. S. J. Jones, of Chicago, read his report on Otology, exhibiting therewith an interesting series of instruments used for the diagnosis and treatment of diseases of the ear.

On motion the report was received and referred to the Committee of Publication.

Dr. E. L. Holmes, one of the Committee on Ophthalmology, also read a paper on conjunctival inflammation in infants.

Dr. J. P. Johnson, of Peoria, confirmed the statement in the paper, that the use of the nasal douche, used with too much pressure endangered inflammation in the ear; and mentioned a case in which the tympanum was ruptured, and the water discharged through the ear.

Dr. H. A. Johnson, of Chicago, remarked in relation to the nasal douche, that there were two dangers requiring the attention of the practitioner.

First, too high a pressure; and Second, forcible efforts to expel the mucus from one nostril while the wash is passing. He thought the latter more frequently the cause of trouble than the former; but regarded the nasal douche, when properly used, of great value.

Dr. S. J. Jones, agreed with the last speaker, but in many instances preferred the curved nasal syringe instead of the douche.

Dr. E. L. Holmes said patients sometimes have a spasmodic action during the use of the nasal douche, causing great pressure on the ears, which it is difficult to guard against.

Dr. J. P. Johnson, of Peoria, regarded the use of a nasal atomizer as preferable, in some cases, to the douche.

On motion, the paper of Dr. Holmes was referred to the Committee of Publication.

Dr. N. S. Davis, Chairman of the Committee, to whom was referred a communication from the American Medical Association, made a report accompanied by resolutions. [See report in full in another part of the Transactions.]

Dr. E. Ingalls, of Chicago, offered the following resolution:

Resolved, That we acknowledge with gratitude and pride the advance the medical profession has made and is continually making in knowledge and scientific attainments; and that practical skill, which enables its practitioners successfully to combat disease and soothe the suffering of the sick; and that in the labor which has effected this advance the Medical Colleges of the country have borne an honorable part, and have contributed their full influence; and that the Illinois State Medical Society would urge the trustees and faculties of all such colleges to carry forward this work of improvement in the spirit they have formerly evinced, and to be always dilligent in the future as in the past, to make such changes in the course and scope of teaching, as the light of experience may from time to time suggest to their good judgments; and so far as we are able we will

discard all partisan and personal feelings, and give our approbation and support to such Colleges as impart the most thorough, extensive, and correct teaching.

The subject was discussed by Drs. E. Ingalls, D. W. Young, J. S. Whitmire, and N. S. Davis; when, on motion, the report and resolutions were acepted, and referred to the Committee of Publication. The resolution offered by Dr. Ingalls was also referred to the Committee of Publication.

Dr. O. Evarts, Chairman of the Committee of Arrangements, announced the time for the *Picnic* in Gov. Charter's Grove, from 1½ to 6 o'clock P.M.

The Committee on Nominations reported the following names of officers and committees for the ensuing year:

President—G. W. Albin, M.D., of Neoga.
1st Vice-President—John Murphy, M.D., of Peoria.
2d Vice-President—J. S. Whitmire, M.D., of Matamora.
Treasurer—J. H. Hollister, M.D., of Chicago.
Permanent-Secretary—T. D. Fitch, M.D., of Chicago.
Assistant-Secretary—J. P. Johnson, M.D., of Peoria.

Committee of Arrangements—Drs. R. Boal; J. L. Hamilton; R. Roskoton, of Peoria; S. Moss, of Pekin; and J. S. Whitmire, of Matamora.

Standing Committees:—

On Practical Medicine—Drs. H. A. Johnson, of Chicago; J. C. Corbus, of Mendota; and N. Wright, of Chatham.

Committee on Surgery—Drs. E. Andrews, of Chicago; D. Prince, of Jacksonville; Webster, of Monmouth.

On Obstetrics—Drs. DeLaskie Miller, of Chicago; John P. McClanahan, of Norwood; and O. Everts, of Dixon.

On Drugs and Medicines—Drs. E. Ingalls, of Chicago; B. Griffith, of Springfield; and M. Shepherd, of Payson.

Special Committees:—

On Criminal Abortions—Drs. W. H. Byford, of Chicago; Chas. Hunt, of Dixon; and D. E. Foote, of Belvidere.

On Ophthalmology—Drs. H. H. Roman, of Springfield; J. P. Johnson, of Peoria; and E. L. Holmes, of Chicago.

On Phthisis Pulmonalis—Drs. S. W. Noble, of Bloomington; D. H. Law, of Dixon; and J. Adams Allen, of Chicago.

On Otology—Drs. S. J. Jones, of Chicago; Thos. Winston, of Forreston; and J. T. Frazier, of Howard's Point.

On Criminal Insanity—Drs. A. McFarland, of Jacksonville; J. S. Whitmire, of Matamora; and R. J. Patterson, of Batavia.

On Idiocy—Drs. C. T. Wilbur, of Jacksonville; J. R. Gilmore, of Jacksonville; and H. Noble, of Heyworth.

On Medical Uses of Carbolic Acid—Drs. N. S. Davis, of Chicago; D. H. Law, of Dixon; and John Murphy, of Peoria.

On Cholera Infantum—Dr. D. W. Young, of Aurora.

On Membranous Croup—Dr. D. Prince, of Jacksonville.

On Gleet—Dr. R. L. Higgins, of Vandalia.

On Trichiasis—Dr. J. S. Hildreth, of Chicago.

On Results in Fractures—Dr. G. W. Phillips, of Dixon.

On Intestinal Affections of Infants—Dr. T. D. Fitch, of Chicago.

On Diabetes—Dr. W. D. Sterling, of Ionia.

On Perineal Section—Dr. E. Powell, of Chicago.

On Duties of the Profession to the State Medical Society—Dr. J. S. Whitmire, of Matamora.

On *Causes of Mortality after Amputations*—Dr. R. N. Isham, of Chicago.

For next place of Annual Meeting of the Society, Peoria, on the third Tuesday in May, 1871.

On motion, the report of the Committee was accepted and adopted.

The Society then adjourned until 7 o'clock P.M.

Note. During the afternoon, the members of the Society were entertained very pleasantly in the Grove of Gov. Charter's on the bank of Rock River, by the profession and people of Dixon. The Mayor of the city, Col. Demant, received the Society on behalf of the government and citizens of Dixon, and was followed in response by Drs. N. S. Davis, H. A. Johnson, E. Ingalls, O. Evarts, and Rev. Williams.

The ladies contributed largely to the pleasure of the occasion, both by their presence and their baskets of abundant refreshments.

Evening Session.

The Society was called to order at 8 P.M. Dr. G. W. Albin in the chair.

Dr. E. Ingalls gave a verbal synopsis of a paper he had partially prepared, on the causes, preventions and treatment of Scarlatina.

On motion, he was requested to complete the paper and present it to the Committee of Publication.

Dr. J. C. Corbus presented a report, as one of the Committee on Otology, which was referred to the Committee of Publication.

Dr. E. Powell, of Chicago, reported a case of Amputation at the Hop-Joint, which was referred to the Committee of Publication.

The Committee on Nominations recommended that Dr. Moses Gunn, Chairman of the Committee on Surgery for the past year, and Dr. DeLaskie Miller, Chairman of the Committee on Criminal Abortion for the same time, be requested to complete their reports and transfer them to the Committee of Publication. On motion the recommendation of the Committee was adopted.

On motion, the Committee on Necrology, Dr. J. H. Hollister, of Chicago, Chairman, was continued.

The following resolution was offered by Dr. J. S. Whitmire, and adopted.

Resolved, That it is the duty of the Legislature of the State of Illinois, to make such legal provisions as to insure persons who have committed capital crimes, and been cleared of the same on account of the plea of Insanity, being sent to the Lunatic Asylum, as being dangerous members of Society; and that a committee be appointed by this Society to procure such action.

The Society then proceeded to the election of Delegates to the American Medical Association and several State Medical Societies, as follows:

Delegates to the American Medical Association—Drs. N. S. Davis, of Chicago; G. W. Albin, of Neoga; D. W. Young, of Aurora; J. P. Johnson, of Peoria; D. L. Crist, of Bloomington; J. S. Whitmire, of Matamora; W. W. Wynne, of Dixon; M. W. Walton, of Ridot; E. P. Cook, of Mendota; J. O. Hamilton, of

Jerseyville; R. N. Isham, of Chicago; E. Ingalls, of Chicago; G. C. Paoli, of Chicago; R. J. Higgins of Vandalia; S. J. Jones, of Chicago; E. Powell, of Chicago; J. M. Morse, Galesburg; H. A. Johnson, of Chicago; G. J. Munroe, of Leland; Moses Gunn, of Chicago; M. M. Robbins, of Aurora; J. P. McLanahan, of Mecer Co.; G. W. Heath, of Franklin Grove.

Delegates to State Medical Societies:—

Iowa—Drs. S. C. Plummer, of Rock Island; and W. D. Sterling, of Ionia.

Missouri—Drs. E. P. Cook, of Mendota; and S. P. Breed, of Princeton.

Indiana—Drs. W. H. Byford and J. P. Ross, of Chicago.

Wisconsin—Drs. W. C. Lyman, of Chicago; and D. E. Foote, of Belvidere.

Kansas—Drs. G. W. Philips, of Dixon; J. M. Morse, of Galesburg; and J. S. Whitmire, of Metamora.

Ohio—Dr. Chas. Hunt, of Dixon.

On motion of Dr. H. A. Johnson, delegates who were unable to attend the meeting to which they had been appointed, were authorized to send a substitute, provided such substitute must be a member of the State Society.

Dr. D. W. Young, of Aurora, offered the following resolutions, which were unaniously adopted, and copies of the same furnished to the press of Dixon.

Resolved, That the thanks of this State Medical Society are hereby tendered the Mayor and Common Council, and citizens of the city of Dixon, for their hospitality and the magnificent entertainment of its Delegates, while in attendance upon the twentieth session of the Society.

Resolved, That the thanks of the Society are hereby tendered to the President for the able manner in which he has discharged the duties of his office; and to the Committee of Arrangements for the excellent accommodations provided for the present meeting.

Resolved, That the thanks of the Society are hereby tendered to the very hospitable Host of the Wachusa House; to the Illinois Central; the Chicago, Burlington and Quincy; the

Chicago, Alton and St. Louis; the Chicago and Rock Island; and the Chicago and North-Western Railroad Companies, for their liberality in commuting fares, and their excellent accommodations to members of this Society.

Dr. E. P. Cook, of Mendota, offered the following, which was adopted, and a Committee appointed consisting of Drs. J. H. Rauch and H. A. Johnson, of Chicago, and D. Prince, of Jacksonville.

Resolved, That it is the duty of the Legislature of the State of Illinois to make such legal enactments, or amend such laws as exist, so as to secure a perfect registration of births, marriages, and deaths, etc. in the State. And that a Committee be appointed by this Society to memoralize the Legislature at its next session, and also for legalizing dissections.

Dr. J. S. Whitmire, of Matamora, offered the following which was adopted:

Resolved, That it shall be the rule of this Society, that hereafter no report or paper designed for the Illinois State Medical Society, shall be referred to the Committee on Publication without first having been read in full, or a synopsis of the same, before the Society.

Dr. E. Ingalls, of Chicago, offered the following Amendments to the Constitution of the Society, which lie over to the next meeting:

Permanent Members—Amend by erasing the words "But without the right of voting."

Also. After the word "specifying" insert the words "From what source he has received his authority to practice."

Meetings-Substitute—"The time and place for each annual meeting shall be determined by vote of the Society, of which due notice shall be given by the Secretary.

Officers—From the clause defining the duties of the President, erase the words "And deliver an address at the expiration of his term of office."

Treasurer—Amend to read "He shall be a member of the Committee on Publication, through which Committee he shall present his accounts, duly authenticated, at every regular meeting.

Standing Committees—Amend by adding "a Committee on Therapeutics, a Committee on Ophthalmology and Otology, and a Committee on Hygiene."

Erase duties specified for Committees on Practical Medicine, Surgery, Obstetrics, and Drugs and Medicines, and substitute the following: "Each of these Committees shall prepare an annual report, to be submitted to the consideration and action of the Society, which report may embrace whatever the said Committees deem most important to communicate in their several departments, and especially all improvements and discoveries relating to them."

Committee on Publication—Amend to read after the words "As may be ordered to be published." "The members of the Committee shall annually audit and authenticate the accounts of the Treasurer, and present a statement of the same in their annual report, which report shall also specify the character and cost of the publications, etc."

After some appropriate remarks by the President the Society adjourned *sine die.*

N. S. DAVIS, *Permanent-Secretary pro tem.*

Report of the Committee on Communication from the American Medical Association in relation to Licenses:

Your Committee, to whom was referred the following communication from the American Medical Association, respectfully report as follows:

The communication is as follows:

Whereas, The history of medical legislation in the various States of this Union, clearly shows that no reliance can be placed on either the uniformity or the permanency of any laws relating to the practice of medicine; and

Whereas, The results of all the efforts made during the last twenty-five years, to elevate the standard of medical education, through concert of action among the numerous medical colleges of this country, have proved with equal clearness that such concert of action, in an efficient manner, is unattainable; therefore, be it

Resolved, That whatever is done to establish and maintain a

just and fair standard of medical education throughout our whole country, must be done by the profession itself, through its own voluntary organizations, in the same manner that it now establishes and enforces its code of ethics. The profession is as competent to declare, through its representatives in the National, State, and local Societies, what shall be the standard of attainments for those to be recognized and admitted into its ranks, and to establish the boards or agencies by which compliance with such standard shall be ascertained, as it is to declare what shall be the ethical rules governing the conduct of those already admitted.

Resolved, That this Association earnestly request each State Medical Society to appoint annually one or more Boards of Examiners, composed of five thoroughly competent members, whose duty it shall be to meet, at suitable times and places, for the examination of all persons, whether graduates of colleges or not, who propose to enter upon the practice of medicine in their respective States, except such as have been previously examined and licensed by a similar board, in some other State.

Resolved, That each State Medical Society be requested to make such regulations concerning the pay of the Boards of Examiners, and the fee to be charged for a license to practice, that the former shall in no case depend on the amount received from the latter.

Resolved, That each State Medical Society be requested to require its Examining Board, or Boards, to exact of every applicant for examination, adequate proof that he has a proper general education; is twenty-one years of age, and has pursued the study of medicine three full years, one-half of which time shall have been in some regularly-organized medical college, whose curriculum embraces adequate facilities for didactic, demonstrative, and hospital clinical instruction.

Resolved, That each State Medical Society be requested to act on the foregoing propositions, at the next regular annual meeting after the reception of copies of the same, and if approved and adopted by the State Medical Societies of two-thirds of the States, this Association shall deny representatives from all organizations who longer refuse to comply with the same, and shall recommend the State Societies to do the same, and all persons who, after that date, seek to enter upon the practice of medicine without, first receiving a license from the State Board of Examiners, shall be treated ethically as irregular practitioners.

Resolved, That in adopting the foregoing resolutions, by which it is proposed to treat the Medical College diploma the same as the diploma of any literary college, this Association is actuated by no desire to injure the Medical Schools of our country. On the contrary, by the adoption of the fourth resolution at the same time that the value of the mere college diploma is practically nullified, it is the desire, and confident expectation, that those institutions will be greatly benefited; because they will be forced to rival each other in the extent and efficiency of their courses of instruction, instead of the number of diplomas which they can annually distribute.

The subject thus presented is one of great importance, and should receive a very careful consideration on the part of the profession. The communication contains three distinct topics, capable of separate consideration.

1st. The facts asserted in the preamble.

2d. The right and the duty of the profession to establish and maintain a just and fair standard of medical education for all such as are admitted into its ranks, and recognized as regular practitioners.

3d. The particular mode for establishing and enforcing such standard of education.

The facts asserted in the preamble are, that the history of State legislation on the one hand, and of medical college action on the other, have fully demonstrated such a degree of discordance and instability in the first, and such want of concert and faithfulness in the second, that neither can be relied upon, either to establish or enforce a just and proper standard of education for the profession. That these assertions of the preamble are true to the full extent, is too obvious to all who have examined the subject, to require any proof. To procure the passage of a law, substantially the same in relation to a standard of medical education, by thirty or more State legislatures, would be a work of great difficulty; and to keep such a law intact on the statute books of all the States for any length of time, against all the various combinations of medical and political quackery, would be practically impossible. If any doubt this, we would refer them to the history of medical education and institutions in the

United States, which they can find in a little volume published in 1851.

Every effort to procure concert of action on the part of the medical colleges has hitherto proved equally fruitless. For more than twenty years these institutions have been urged by the profession, speaking through the American Medical Association, to adopt and enforce a higher standard of requirements for those proposing to enter the profession. Four distinct efforts have been made to effect the desired concert of action, by conventions of delegates from medical colleges exclusively. The first was in Louisville, in 1859; the second in New Haven, in 1860; the third in Cincinnati, in 1867; and the fourth in Washington, in 1870. The two last-named conventions were attended by delegates from about half of the medical colleges in the United States; and in both, after full discussion, a very satisfactory plan of medical education was agreed upon, and strongly recommended for adoption.

But while thus agreeing as to what *ought* to be done, a large part of the delegates, especially from the Eastern schools, disclaimed having any authority to make the recommendation binding upon their respective colleges; and consequently it, like the numerous resolutions passed by the American Medical Association on the same subject, was of no practical effect, except as an expression of opinion. We think, therefore, it may be safely assumed that the assertions of the preamble are strictly correct. This being conceded, there are, logically, but two alternatives left:

One, to let the subject of medical education remain in *statu quo*, with no standard of preliminary qualifications on the part of students, no system or order in the pursuit of strictly medical studies, and no uniform or disinterested tribunal for determining the qualifications of those who are to be admitted into the profession.

The other is, to adopt and carry into practical effect the propositions in the first resolution in the communication under consideration; namely, that it is both the right and the duty of the profession to establish and maintain the standard of

acquirements deemed necessary for those who are to be admitted and recognized as members of such profession. And to do this through the agency of its representatives in the State and National organizations.

The present educational condition of the medical profession in this country is peculiar, and without a parallel in any of the other professions. Absolutely without any practical standard of education for those who propose to study medicine; without any expressed or recognized standard of attainments in medicine to be exacted of candidates for admission; we present the spectacle of a great and important profession standing with folded arms, and receiving complacently whoever forty or fifty independent medical schools may see fit to commission with the title of M. D.; the faculties of such schools being at once the paid instructors and sole judges of the moral, intellectual, and professional qualifications of those they thus commission. No such relation exists between the profession and the colleges in any other country; and no parallel relation exists, either in the professions of law or divinity in our own country. The judges of the various courts are the tribunals before whom the applicants for admission to the bar must substantiate their qualifications; and the diocesans, presbyters, synods, and conferences of the various religious denominations determine the qualifications of those who are to be admitted into the clerical ranks.

The schools of law and of theology are established for purposes of instruction solely; and the same should be true of schools of medicine. If this were the case, or if the profession, through its own organizations, established its standard of requirements and its own tribunals or boards of censors for exacting compliance with such standard, it would speedily change the direction of the rivalry among the colleges and the influences controlling the students in choosing the colleges they would attend. While the mere college diploma remains, as at present, a full passport into the profession, a controlling question with a large part of students will be, not where can they get the most thorough qualifications in a given length of time, but where can they reach a diploma for the least expenditure of time and

money; and in the same proportion will the schools rival each other, not in the extent and perfection of their courses of instruction, but in the ease and cheapness with which they can offer their diplomas, and yet preserve the form of respectability. An experience of more than twenty years in connection with medical college instruction, aided by an active intermingling with all interests in the profession, has fully satisfied us that the propositions submitted by the American Medical Association are founded on correct principles, and look to the adoption of a policy of great practical importance. And hence we hope they will meet with the cordial sanction of this Society.

There may be some, however, who, though admitting the correctness of the proposed policy, nevertheless regard it as incapable of practical application. Such claim that every one practices medicine who pleases, and that boards of censors appointed by State Medical Societies, having no legal authority, would be unheeded by a large part of those entering into the ranks of the profession.

It is *true*, that in our country, any one prescribes for the sick who pleases; but it does not follow that every one who prescribes is recognized as a member of the profession, consulted with, and made eligible to membership in our medical societies. On the contrary, certain rules of ethics, voluntarily adopted by our medical organizations, having no sanction of civil law, but distinctly indicating conditions of recognition for members of the profession, are very generally respected and obeyed. So if every State Medical Society would appoint proper boards of censors who, after a given date, should be ready to thoroughly examine every candidate for admission into the ranks of the profession, and the submission of every candidate to such examination and the procurement of a license was made a positive requirement for eligibility to membership in the local, State, or National Medical Secieties, and for recognition as a *regular practitioner*, it would soon come to be as universally complied with as any other well-established rule of the profession. There is an instinctive desire in the mind of every educated member of an enlightened profession to stand well with his brethren, and to

be fully eligible to every privilege and immunity belonging to that profession. And this feeling, especially if aided by public sentiment, commands far more implicit obedience in our country than any statutory law.

There is one department of the education of our profession, the regulation of which so plainly belongs to the profession at large, that we call your special attention to it. We allude to the preliminary education necessary before commencing medical studies proper. It cannot be reasonably denied that a very large part of the evils in our profession depend on the imperfect general education of those who enter it. The desirableness and necessity of a fair degree of mental development and discipline, with a knowledge of the common branches of education, including the physical sciences, as a preparation for the study of medicine proper, is so obvious to every reflecting mind, that comments on the subject are superfluous. The honor and usefulness of the profession imperatively demand the universal adoption of a fair standard of preliminary education, and its rigid enforcement, as a condition of admission both into the office of any physician and as a matriculate in a medical college.

In view of the foregoing observations, we would close this report by offering for your consideration the two following resolutions:

1st. *Resolved*, That this Society cordially approves the propositions contained in the resolutions received from the American Medical Association, and quoted in the commencement of this report.

2d. *Resolved*, That this Society approves of the standard of preliminary education agreed upon by the Convention of delegates from medical colleges, in Cincinnati, in 1867, and reapproved by the Convention in Washington, in May, 1870, except so much as relates to Greek and Latin; and that it is the duty of every State and local medical society to appoint annually a board of censors, whose duty it shall be to examine all persons who propose to enter upon the study of medicine in their respective districts, and to give a written certificate of qualifications. And further, that where such *boards* exist, it shall be considered a violation of the ethics of the profession for

any practitioner to receive a student into his office before he has procured a satisfactory certificate from such board.

Respectfully submitted.

N. S. DAVIS,
DAVID PRINCE.

Abridgments from Our Exchanges.

Hydrate of Chloral.—Dr. J. M. DeCosta contributes to the *Am. Jour. Med. Science* some valuable notes, chiefly clinical on the effects of this agent.

Hydrate of Chloral chrystalizes in snow-white needles, has a peculiar, somewhat penetrating odor, and dissolves largely in water without being decomposed. It can be administered only in aqueous solution, but may be given by the stomach, rectum, or hypodermically; its bitter and acrid taste can be disguised by the addition of mucilage or syrup, particularly the syrup of orange peel. It is incompatible with the alkalies. The solution for hypodermic injection should be neutral; but this method had better be avoided, as sometimes fearful phlegmons ensue upon its use; this, however, rarely happens.

The solution of chloral is said to alter by keeping, hence it should be prepared in small quantities.

It is claimed for this new agent, that it produces narcotism with safety, that its hypnotic effects are unattended with restlessness or excitement, that no unpleasant symptoms follows the deep sleep it causes, that it quiets pain, and may remove sensibility completely; also that it lowers the temperature and occasions great muscular relaxation.

The average dose of chloral is from 20 to 40 grains by the mouth, and about 15 hypoderically. It may be given in certain cases in much larger doses, but often causes striking effects in smaller portions. I have seen no *hypnotic effect* from doses less than 20 grains. In that dose it acts fairly in some, while others require several such doses to procure sleep. In

one patient not less than 60 grains given in 20 grain doses every hour at bedtime, produced any effect.

The *character of the sleep* is generally sound, but in exceptional cases the patients are troubled with vivid and often unpleasant dreams. Very large doses given at once obviates the disturbance, but prudence forbids their use—owing to individual peculiarity—unless we know how they may effect the patient. When the medicine acts well the sleep is generally induced quickly. I have observed no hyperæsthesia during the sleep, as has been asserted to be the case. Anesthæsia does not follow ordinary doses; it is only the result of very heavy, and, therefore, dangerous doses.

The patient usually awakes naturally, and without mental confusion, yet there may be slight frontal headache, with nausea, and pain at the pit of the stomach. In a few cases I have observed an unsteadiness of gait, resembling that of alcoholic intoxication, and a very free action of the skin; profuse sweating may show itself while the patient is sleeping. The urinary secretion was found augmented under the influence of this drug. The pulse slightly decreases in the number of its beats, and respiration and temperature can only slightly be changed with moderate doses.

We find this sedative of value in restlessness, hysteria, acute mania, and delirium tremens. In the latter affection I have used it in ten cases, and my experience is that it is rather a valuable adjuvant to the treatment than one that can alone overcome the malady. In some cases 90 to 150 grains of chloral were given in the 24 hours.

Chloral relieves pain, and hence is valuable in neuralgias, colic, etc.; in lead colic, especially, it has proved of much service in medium doses. But its action in alleviating pain is not constant, sometimes it acts and sometimes it does not. In coughs, hiccough and chorea, I have been disappointed with it.

Chloral is not without danger, and we should give it intentative doses, carefully watching its effect. It is contraindicated in all enfeebled conditions of the heart. Using opium and chloral together is, I think, often a decided advantage; they do not antagonise but aid each other.

Dr. J. B. Russell, of Glasgow, (*Glasgow Med. Jour.*), has given chloral largely in typhus, as an hypnotic. In 40 grain doses a tonic effect was produced; the heart's action became irregular and slower. In many of his cases there was at first slight stimulant effect, but this was very transient. The chloral acted as a sedative and hypuotic with remarkable uniformity and rapidity, in almost every form of cerebral excitement incident to febrile disease.

1. The chloral sleep, he says, is different from that of opium, and this is more safe than the latter drug. The chloral sleeper may be aroused at any time; he is at once in full command of all his functions, may take food, pass urine, cough, and expectorate; he may then drop over into unconsciousness again at once. Not so after opium has been administered.

2. The excretions are not effected by chloral; they are by opium.

3. Opium is an unsafe medicine for children; chloral is perfectly safe.

4. Opiates, even with tartar emetic, are uncertain; I have met with no patient who resists the action of chloral.

Dr. R., in his doses to children and the young, makes the number of grains about equal the years of the patient, if under twenty-five.

A theory of Leibreich is, that chloral is transformed into chloroform in the blood by its alkali; in typhus, as the blood is excessively alkaline, this drug ought to produce its effects in smaller doses than usual. This Dr. R. observed in every case to be the fact.

Dr. A. M. Adams (*Lancet*), Dr. De la Harpe (*L'Unione Med.*), and Dr. S. Teller (*Med. Record*), all attest the value of chloral in puerperal and acute mania. Especially after it had been found impossible to get sleep from opiates and bromide of potassium was this agent found to give prompt relief.

Dr. Richardson records a case (*Practitioner*) of toxic action of chloral, in which from 40 to 50 grains had induced such a prostration and collapse that death was strongly threatened—cold extremities, jactitation, sense of sinking, gasping

breath were they symptoms. He administered stimulants, white of egg, warmth to extremities, and sinipisms to the cardice region, with good effect.

Sir J. Y. Simpson says of chloral: I have found it as a general law as sure a producer of sleep and soother of pain as opium, or any of its preparations. It is usually swifter in the induction of its narcotism, more tranquil in its action, and more prolonged in its effect than opiates, when taken as hypuotics. It is without many of the drawbacks of opium, such as constipation and tendency to excite nausea and vomiting. It will not fulfil all the many indications for which opium is used in medicine, but it will prove a very valuable anodyne in some cases of neuralgia and dysmenorrhœa.—*Med. News, Times and Gazette St. Louis Med. Journal.*

New Operation for Inverted Uterus.—Dr. T. G. Thomas gives an account of four cases of chronic inversion of the uterus, with a description of a new operation for its relief.

After giving a history of the accident and its remedy, as formerly treated, he quotes from a foreign journal a resume of fifty-eight cases operated upon for the removal of the inverted uterus by ligatures, knife, and ecraseur. Eighteen terminated fatally, being nearly one-third of all operated upon.

The new operation, which is to be used only after all other means have failed, he has performed successfully upon a patient who had submitted to fourteen attempts to reduce by taxis, each, with on eexception, lasting more than an hour. The operation consists in opening the abdominal cavity by a brief incision through the median line just above the uterus, passing a pair of dilating forceps into the cavity of the cervix and dilating it, then by pressure in the vagina upon the fundus of the organ returning it to its place. The dilation was easy and rapid, but on withdrawing the dilator the issue of the organ again contracted, making a more prolonged dilatation necessary. There was, by the great pressure upon the fundus of the uterus, a small rent made between that organ and the bladder. After the operation there was profuse hemorrhage from an

artery cut in an operation the day before, but against these unfavorable circumstances, and that of the abdominal wound, the patient made a rapid recovery.

This operation seems like a bold procedure, but that this is an error we need only to reflect upon the comparative safety in modern times of the explorative incision for ovariotomy, and that of all operations of amputation of the inverted uterus, one-fourth to one-third result fatally.

Dr. T. says that in a recent case he would use belladonna per enema and the warm douche to the uterus, kept up for a week, so as to relax the uterine tissue as far as possible, then for another week he would employ pressure to the uterus by means of a caoutchouc bag filled with air or water. After this he would employ taxis for an hour or more once or twice a week, in the mean time keeping up vaginal pressure by the caoutchouc bag. Having failed with these means, and not before he would resort to the abdominal section, modifying the operation by using a dilator with four limbs instead of two, and keeping the instrument in place until the tendency to contract again was somewhat worn out.

Of the danger of rupturing the vagina by pressure against the fundus, he says: "I should prefer to trust a patient to the operation of abdominal section than to that of prolonged taxis at the hands of a rough, unintelligent, and inexperienced practitioner.—*New York Med. Journal.*

Pathology of the "Bridge Cases," by Dr. Lewis Bauer.—In building the Mississippi bridge, at St. Louis, many of the men working at the piers, or beneath them, have been stricken down with paraphlegia and other disorders and symptoms, and four of them have died. Most of the patients, however, have recovered. Those who have died have exhibited evidence of severe inflammation of the brain and spinal cord, and their membranes.

By the manner of construction of the piers the men have been compelled to work in an air-chamber beneath the masonry as the whole was being sunk through the sand to the rock be-

low, the air of which it was necessary to keep at just that pressure which exists in a diving-bell at that depth. The distance below the low water mark which this chamber is forced down, is about 100 feet, 80 of which is through sand; so the workmen have, toward the close of the sinking of each pier, been compelled to labor under a pressure of about 60 pounds to the square inch of surface, or four times greater than normal to the human body.

Paraphlegia is well-marked in every instance, from a slight parasis of motor power to perfect paralysis of both motion and sensation. Numbness usually prevails; notwithstanding this, shooting pains from the spinal down are sometimes felt, but they, with all the hyperaesthesia, wholly cease in the paralyzed limbs.

The spine is always tender; pains in the muscles of the shoulders and chest continue for days after other symptoms disappear. The bladder loses its expulsive power early in the attack, and the urine in a day or two undergoes alkaline decomposition, and often contains blood. On supervention of paraphlegia sensation becomes lost, and the patient may be scalded or burned without pain. Respiration is always disturbed. Previous to death the patient becomes apathetic, stupified, and comatose. The pulse rarely exceeds 105 per minute. A *post mortem* examination in one case showed nearly all the veins dilated and filled with dark tarry blood; great vascularity of the membranes of the cord and brain; a large amount of serum in the arachnoid space. The substance of the brain was changed, and that of the spinal cord, in places, was softened to a pulp, and nearly or quite all the glandular organs showed great vascularity and congestion.

Microscopic examinations showed that the softening of the brain is due, in part at least to inflammatory processes.

The doctor sums up the pathology of these cases substantially, as follows: The great disparity between the pressure of the air within the chamber and the power of the gases and fluids within the body to withstand it, must be a main cause of the trouble. It is certain the equilibrium between these forces

is very hard to effect in the short time required in passing into and out of the "chamber," and hence the system would be extremely liable to disaster. Then the quantity of oxygen is proportionately increased in the dense atmosphere beneath the pier, there is hyperoxygenation of the blood, and proportionately increased waste of organic material going on while there. As long as this is going on little injury ensues, but on coming to a rarer atmosphere the power to eliminate this effete organic matter which has accumulated is so reduced that the system suffers from it at once.

I am unable to explain why the lower portion of the spinal cord should be the chief recipient of the poisonous effect."

Does Mental Influence in the Mother Produce Malformation in the Fœtus.—The *American Journal of Insanity* contains an article on this subject, by Dr. G. J. Fisher, of which the following is a brief summary:

It is a traditional superstition, for which the medical profession is largely responsible, that malformations are the result of maternal mutual emotions. Various and intense emotions are common in gestating women, as are apprehensious of malformation of their offspring, yet abnormal births are exceedingly rare.

There is nothing like law on the alleged results of maternal mental influences in the production of malformations, and the occasional apparent relation of cause and effect is due, usually, to accidental coincidences, which would be far less frequent if the facts could be ascertained *before* instead of *after* the birth of the child. The coincidences are not sufficiently numerous and authentic to warrant the belief that they are anything else. Like cause produce like results; whereas widely dissimilar emotions are assigned for causes of the same deformity. Some of the assumed causes are alleged to have operated on the fœtus *subsequent* to the time for the evolution of the part deformed. In a large proportion of the malformations no mental or physical explanation is offered by the parents.

The alleged resemblance of maculæ to contain fruits and animals is purely accidental or is the result of imagination.

Malformations identicle in kind and degree recur often on the human subject, and admit of classification. They all have their exact morphological counterpart in the lower animals, as well as some that are analogous in the vegetable kingdom.

Monstrosities are not the result of *violation* of embryological or physiological laws; they are the product of *embarrassment*, to normal development, either retarded, arrested, or excessive development.

In plural conception it is absurd to suppose mental emotion can be conveyed to one fœtus in the womb and not to the other, whether it be transmitted through the blood, by undiscovered nerves in the *funis*, or by some animal magnetism directly across tissues.

The development of united-embryos is now known to follow definite laws.

Monstrosities may arise from either abnormalities of the generative matter of one or both parents, or of the material organism, or from abnormal states of the membranes of the ovum and umbilical cord.

The time has fully come to repel the popular error that anomalies of organization are due to mental emotions; and it is the duty of the medical profession to aid, as they carry on this consummation.

Vital Statistics. — In an article of considerable length (*N. O. Journal of Med.*), compiled with much care and labor, Dr. S. E. Chaillé presents the results of his research on the vital statistics of New Orleans. He has prepared many tables, and gathered his information from many sources; most of the paper, however, is chiefly valuable to the profession and people of New Orleans. The various tables all unite to express the result that that city has been one of the most unhealthy of the United States. It is well established that 11 deaths occur yearly in every 1000 inhabitants unavoidably; any in excess of this in healthy communities is preventable. Cities are more unhealthy than the country; but for these, 17 to the 1000 is the estimate of *necessary* mortality; yet as an average for

all cities, 20 per 1000 is regarded as a fair standard of deaths, while under 20 is very healthy, and over 30 is very decidedly unhealthy.

The death-rate of New Orleans for 1856–60, five of the healthiest years, was 46.3 with, and 39.8 without the yellow fever deaths counted. The death-rate of the males, reckoned alone, was about 57, and of the females 36 per 1000, for the 46.3 of the whole population.

In the past forty years, London, Paris, and other cities, have by hygienic measures reduced the death-rate to 30 per 1000, or below that. The city of Salisbury reduced her death-rate by complete drainage of the city, 6 per 1000. The city of Ely by sanitary works shows a similar record. When Algeria was first colonized, the mortality in Mitildge was 206 per 1000, and births hardly any; but in 1868 the deaths were only 24 per 1000, and the births 39 to every 30 deaths.

He gives the annual death-rate (per 1000) of many cities and countries; those most reliable are the following: France, 23 to 24; England, 22; Massachusetts, 19.6; Vienna, 31.7; Rotterdam, 34; Paris, 25 to 29; London, 24; Boston, 23; New York, 25 to 30; Philadelphia, 20.3; Cincinnati, 24.

Uterine Injections in Endometritis.—Dr. Nott, of New York (*Journal of Obst.*), writes a lengthy article on the treatment of endometritis by uterine injections. He strongly condemns the indiscriminate use of caustics and powerful stimulants to the inflamed and ulcerated uterus, as well as the almost sole reliance which not a few practitioners place on local treatment for uterine diseases.

His conclusions regarding the treatment of the disease in question are substantially as follows:

1. That the appalling symptoms sometimes following the use of uterine injections are induced by the passage of fluid through the Fallopian tubes into the peritoneal cavity, is decidedly questionable; they are more likely due to some effect produced upon the uterus.

2. If the fluid could always be prevented from over-filling

the uterus, no such disaster would ever follow the use of an injection of proper strength; a free exit for the liquid would obviate the difficulty.

3. He has invented an instrument, which he figures, that will accomplish this purpose. It consists of a large catheter, within which is a small tube. The fluid is forced in through the little tube; it passes out an orifice into the uterus, and finds egress at once through the catheter, which it enters through ample slits.

Instead of sponge tents for dilating the os uteri, he uses a pair of curved dilating forceps, which act on the principle of the glove-stretcher. With this he makes forcible and rapid dilatation.

Copper as a Preventive of Cholera.—M. Berg says a society of coppersmiths, through four successive cholera epidemics, enjoyed almost complete immunity from the scourge, while people of all classes around them were dying by hundreds. From minute inquiry he learned that the mortality among copper workmen was only five in 100,000. The immunity seems to be in proportion to the relative amount of fine copper (copper powder) which the men can inhale.—"*Jour. de Med., &c.,*" *Ibid.*

Excision of a Scapula.—Dr. Schuppert has excised the entire scapula of a woman 36 years old, for a tumor involving nearly the entire bone. The operation was recovered from promptly, the patient having a tolerably useful arm—one more useful, indeed, than before the operation. There was very little hemorrhage, partly due to the obliteration of some large vessels in a former operation. This is the tenth reported case of this operation.—*New Orleans Jour. Med.*

Ossification of the whole Muscular System.—A curious case of this sort is reported by Dr. Byers, of Texas. A healthy child of eight years had small tumors appear on the surface of his body; they gave no pain, and in a year and a-half disappeared, but were followed by anchylosis of the joints and a slow

deposit of ossific matter in the muscles. Nearly all the voluntary muscles became hard and useless. He did not increase in stature after his tenth year, and never manifested signs of virility. He died at seventeen, never having suffered pain. The language of Dr. B. is such, that we are left in doubt as to whether the deposit was really a calcification, a deposit of earthy salts, or whether it had the characteristics of true bone tissue.—*Ibid.*

Editorial.

Chicago Medical Society.—At the regular meeting on July 11th, Dr. Holmes presented a specimen of encephaloid disease of the orbit, removed from a boy 12 years of age. The case was one of special interest on account of the rarity of its occurrence in one so young. A gradual enlargement and some pain in the orbit was first noticed, after a blow received while playing base ball. In six weeks from the date of the injury, the swelling had increased until a mass the size of a teacup protruded from the orbit, surrounding and involving the eye-ball. Upon removal, the mass presented a transparent jelly-like structure.

Dr. Holmes also presented a specimen of calcarious deposit in the choroid, removed from a patient 40 years of age. The eye had been destroyed by glass when the patient was six years old, and lately it had caused him much severe pain. The Doctor had in his possession a similar specimen, removed several years ago, which had caused the patient severe neuralgic pains for three years.

Dr. Davis presented a specimen of schirrhus, disease of the liver. The organ, at the time of its removal, weighed seven pounds. The cancerous growth involved full two-thirds of the right lobe, while a smaller mass was present in the left lobe. Both masses presented a retraction in the center, similar to that of the nipple in cancer of the breast. A specimen of the cancerous tissue was exhibited under the microscope, presenting

the appearance of a simple aggregation of small granular cells, and an occasional fibrous shred. A number of specimens from different parts of the cancerous masses had been carefully examined under the microscope, but without the detection of anything more than was shown in the specimen exhibited. None of the oval nucleated cells described as characteristic of schirrhus growths could be found in any of the specimens. The case at first presented all the symptoms of chronic gastritis, without any enlargement of the liver. After the hardening and enlargement of the organ had once begun, the growth was rapid, and the patient soon died. The account of another somewhat similar case was also given by the Doctor.

Dr. Fitch mentioned a case that had came under his notice in which the disease was supposed to be hereditary. The patient here also complained most of intense burning pain in the stomach.

Dr. Fitch also presented a case of imperforate rectum in a child otherwise well formed at birth. An operation was performed, but the child died within a few days. Dr. F. suggested whether, in such cases, it was not preferable that the child should die, rather than that it should live with a disgusting artificial anus.

Professorial Changes.—Prof. E. Gilbert Wheeler, who had filled the two chairs of Chemistry in the Chicago Medical College, having resigned, the chair of Inorganic and Analytical Chemistry has been filled by the appointment of F. Gray Bartlett, Ph.D., of this city; and that of Organic Chemistry and Toxicology, by the appointment of H. P. Merriman, M.D., also of this city. A new chair of Ophthalmology and Otology has been created and filled by the appointment of Sam'l J. Jones, M.D.

These are excellent appointments, each appointee having special qualifications for the performance of the duties assigned to him.

Mortality for the Month of June, 1870.

Accident, by aconite	1	Diarrhœa, chronic	3	Lungs, congestion	4
" drowned	6	Diphtheria	7	" hemorrhage	1
" fracture of skull	2	Dropsy, general	4	Manslaughter	2
" by fall	2	" of chest	1	Malformation, general	2
" gasoline	2	Dysentery	16	Mouth-canker sore	1
" lightning	4	" acute	1	Measles	10
" railroad	4	Empyemia	1	" & complications	7
Abscess	1	Entero-colitis	1	Metro-peritonitis	2
Albuminuria	1	Enteritis	9	Meningitis	14
Apoplexy	6	Epilepsy	1	" cerebro-spinal	2
Apthæ	1	Erysipelas	1	" tubercular	2
Asphyxia	1	Fever, congestive	1	Old age	6
Births, premature	18	" puerperal,	4	Paralysis	7
" still	48	" remittent	2	Pericarditis	1
Bowels, constipation	1	" scarlet	28	Peritonitis	2
" congestion	1	" " complications	9	" puerperal	1
" hemorrhage	1	" " malignant	2	Pneumonia	10
" ulceration	1	" typhoid	10	" broncho	1
Brain, congestion	9	Gastritis	1	" & complications	2
" inflammation	11	Gastro-Enteritis	2	Pyæmia	1
" softening	1	Hæmatemesis	1	Rheumatism	1
Bronchitis	5	Hemorrhage of ulcers		Scrofula	2
" chronic	1	on leg	1	Small-Pox	5
" capillary	1	Heart disease	2	Sunstroke	8
Cancer of Breast	1	" " and dropsy	1	Suicide, by drowning	1
" inguinal glands	1	" hypertrophy	1	" " strychnine	1
" " stomach	2	" fatty degenerat'n	1	" " hanging	1
" " uterus	5	" valvular disease	4	" " shooting	1
Childbirth	1	Hip-joint disease and		Suffocation from tumor	1
Chorea	1	abscess	1	Tabes mesenterica	20
holera Infantum	145	Hepatitis	1	Teething	10
" morbus	3	Hernia, strangulated	3	" & complications	9
Consumption	45	Hydrocephalus	6	Tetanus	1
Convulsions	90	" acute	11	Thorax, malformation	1
Colitis	1	Inanition	11	Trismus	1
Croup	12	Icterus menonatorum	1	Tumor, ovarian	1
" membranous	4	Jaundice	1	Unknown	2
Cynanch tonsillaris	1	Kidneys, Bright's dis-		Whooping-cough	2
Debility, general	4	ease	1	" & complications	2
Delirium Tremens	1	Laryngitis	2		
Diarrhœa	37	Liver, degeneration	1	Total	720

Deaths in June, 1870, 720 | Deaths in June, 1869, 434 | Increase, 286
Deaths in May, 1870, 436 | Increase, 284

AGES.

Under 1	360	10 to 20	16	70 to 80	12
1 to 2	94	20 to 30	45	80 to 90	4
2 to 3	22	30 to 40	44	90 to 100	1
3 to 4	19	40 to 50	32	Unknown	5
	12	50 to 60	18		
5 to 10	23	60 to 70	13	Total,	720

Males, 387 | Females, 333 | Total, 720
Single, 599 | Married 121 | Total, 720
White, 714 | Colored, 6 | Total, 720

Atlantic Ocean	1	England	9	Russia	1
Bohemia	6	France	2	Sweden	6
Canada	4	Germany	73	Scotland,	5
Chicago, Native	114	Holland	3	Switzerland	2
Chicago, Foreign	346	Ireland	38	Unknown	6
U. S., other parts	86	Norway	12		
Denmark	4	Poland	2	Total,	720

MORTALITY BY WARDS FOR THE MONTH.

Wards.	Mortality.	Wards.	Mortality.
1	6	19	19
2	18	20	23
3	27	Accidents	21
4	13	County Hospital	12
5	19	Home for Friendless	5
6	40	Hospital Alexian Brothers	2
7	30	Immigrants	30
8	63	Jewish Hospital	3
9	62	Lake Hospital	1
10	17	Manslaughter	2
11	27	Mercy Hospital	7
12	18	Soldiers' Home	2
13	12	St. Joseph Orphan Asylum	8
14	13	Suicide	4
15	77		
16	40	Total,	720
17	44		
18	55		

OBITUARY.—JOSEPH S. HILDRETH, M.D.—Dr. Hildreth died at his residence, No. 526 Wabash avenue, at 5 o'clock July 22.

The death of this eminent physician, who has been cut off thus suddenly in the very flower of his manhood, and in the midst of a career of usefulness and promise, will cause deep sorrow throughout a wide circle of personal friends, while it is to be equally deplored as a loss to the medical fraternity, of which the deceased was one of the brightest ornaments. Dr. Hildreth had been suffering from neuralgia for several days, and had resorted to various remedies for the alleviation of his suffering. On Thursday afternoon he suffered so intensely that he was induced to take chloroform. He inhaled it for a considerable time, and, about 9 o'clock in the evening, he took a dose of hydrate of chloral. While under the partially deranging influences of these combined remedies, he resorted to a still more powerful one—gelserum—in the hope that it would relieve him from his pain. Unhappily, he committed an error in judgment as to the quantity, and took an overdose. Dr. Bevan, Dr. Miller, and Dr. Byford were immediately called to his aid, but the poisonous influences were so strong that it was found impossible to arrest the effects of the drugs. The Doctor became insensible, and expired about 5 o'clock in the morning.

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ARTICLE XXIII.

CANCER OF THE LIVER.
WITH CLINICAL LECTURE BY PROF. N. S. DAVIS.

BY C. W. EARLE, M.D.

James Stableton, white, Irish nativity, blacksmith, aged about 31.

HISTORY.—This man gave a family history from which we were unable to determine that he was liable to any hereditary complaint. He has always enjoyed the best of health until within the last fourteen months, having been from his youth an active laborer. Some six months previous to his admission to the Hospital, he received a blow on his head, which caused him some pain at the time, and from the effects of which he is inclined to attribute all his present symptoms.

He complains of great pain in the region of the stomach. He describes it as *burning*. The pain in his left side is paroxysmal, and frequently extends up toward the shoulder and around on the left side, toward the spine. He also has a very severe headache, sweats very profusely, poor appetite. He was also troubled with vomiting. Immediately upon admission, he was subjected to a close examination, but neither percussion, auscultation, or palpation gave any clue to his dis-

ease. The patient was placed on palliative treatment, and all his symptoms closely observed. To be sure, the continued pain in his stomach, still radiating, combined with a fetid breath and a decided cachectic appearance, which I should have mentioned before, pointed strongly to malignant disease of that organ. Yet, there was the absence of some symptoms that we always expect in cancer of the stomach, and so the diagnosis was withheld. About this time, some three weeks after his admission to Hospital, a change in the location of his pain, and an examination as to its cause revealed the precise condition of our patient.

The pain in the vicinity of the stomach was almost entirely relieved, and his suffering was now referred to his right side. By flexing his legs and relaxing the abdominal muscles, an enlarged and hardened liver could easily be detected.

DIAGNOSIS.— Cancer of the liver.

The clinical lecture delivered by Prof. N. S. Davis at the patient's bedside, gave more practical instruction in the case than can be found elsewhere, and I therefore feel at liberty to transcribe from my note-book his remarks:

"GENTLEMEN:— The general history of the case now before you has been given by the house physician, and I need not repeat. The symptoms at first were so referrable to his stomach, that I regard it important that you should be made familiar with diseases of this organ, characterized by pain, tenderness, etc., and the differential diagnosis between them.

"In Chronic Gastritis, you would generally find that food increased the pain. There would be occasional vomiting and constipation, emaciation not very marked, and no cachectic appearance. We have, too, a curable disease, and, of course, would not expect to find any tumor.

"In Gastric Ulcer, we have a localized pain — paroxysmal, but not lancinating, generally, hemorrhage from the stomach, debility, etc., etc. The prognosis is not as favorable as in Chronic Gastritis, as it may go on to perforation, yet many cases get well in time, yielding to proper treatment.

"In Cancer of the Stomach, we have a radiating pain, severe

and lancinating. Vomiting is a very frequent symptom, and is described by the authors as always being present. The bowels are constipated, and we notice a constant wasting of flesh, with cachexiæ. A tumor may generally be detected by close examination, and I think some swelling or change in the outline of the organ may be observed. This patient you will notice, had certainly some of the symptoms of cancer of the stomach. There was the severe and lancinating pain with the cachectic appearance, the debility and emaciation. But the pain from which he is now suffering is in the vicinity of the liver, and by placing the patient on his back and flexing his limbs, you can distinctly feel the organ enlarged. You will notice that this enlarged and hardened mass emerges from under, and extends to a point two inches below the ribs, to the left it reaches to the ensiform appendix, to the right to the notch that separates the right and left lobes. You will most always be able to detect by percussion, the boundary of the liver in its position under the ribs—one-half inch above the point of the ensiform appendix, directly across toward the right, marking the superior normal border of the organ. This enlargement is in the same position that we would find an enlarged pylorus, but the widest part is above, which would not be true with an enlarged pylorus. The fact that it is not only broadest above but continues upward under the ribs and to the right, occupying the right hypochondriac space, shows that it actually includes the liver. We may also have an encephaloid growth of a kidney, which must be diagnosed from the diseased condition now before us. Always trace its *commencement*, and you will find little trouble as a general thing, in distinguishing the organ effected.

"In Disease of the Kidney, if the organ was enlarged, the free margin would point toward the mesial line, and the analysis of the urine would be of great assistance. An ovarian tumor sometimes fills the whole abdominal cavity; but it rises from the lower part of the abdomen, which, with other symptoms familiar to you, would enable you to make out a diagnosis. Any of the mesenteric glands may take on an enlargement, but by observing carefully the directions which I have given to

trace them to their origin, and note all other symptoms, you will experience but little difficulty in arriving at the correct condition.

"Now, as to the nature of the tumor before us. There is no stoppage of ducts, as we have no jaundice. This peculiar color of the skin which you have all noticed is not that of a jaundiced condition. It is rather from a want of red corpuscles in the blood, and not from the want of proper excretion of bile matter. This cannot be a distended gall bladder, as the tumor is too large; and if such was the case, we could trace its shape. This is certainly an enlarged liver. What is its character? Is it simple inflammation, fatty degeneration, or cancer? If from the first, either acute or chronic, he would have noticed more or less febrile excitement, with nausea and vomiting, derangement of the bowels, etc., etc. If this enlarged organ was from fatty degeneration, the patient would never have experienced the acute, lancinating pain which he has been obliged to suffer. With this affection there would have been a more progressive loss of strength, with less emaciation, and less active disturbance of the system. It would have been usual in a short time to have noticed some dropsical condition in fatty degeneration, while in cancer it is generally wanting. Its persistence, the hardness, the general cachexia, all indicate cancer. The prognosis is extremely unfavorable. No curative treatment has as yet been discovered; yet we may do much to alleviate the sufferings of our patient, if not wholly retard the progress of the disease. An exudation or induration from inflammatory action can usually be controlled by remedies, but a new growth, with enough vitality to produce cell formation, is seldom controlled by remedial agents.

"TREATMENT.—Pay particular attention to the diet. Milk and farinacious articles are the best. Meat should be used only sparingly. For an internal remedy, I have realized the most benefit from some of the arsenical preparations with conium. The following is a good formula:

"℞ Arsenite Soda,----------grs. iv.
Ext. Conium,----------℥ss.

"Make a mass, and divide into sixty pills.

"Sig. Take one three or four times a day.

"Anodynes sufficient to relieve pain should be given, selecting those that do not constipate, if possible. Among the best are Fluid Ext. Hops, and Lettuce. By such treatment, you can do much to palliate the sufferings of the patient, and delay somewhat the fatal result.

"The patient which was the subject of the foregoing clinic, continued to fail until May 17th, when he died, apparently from copious hemorrhage from the bowels. His entire sickness was about eight months duration.

"AUTOPSY.—Twenty-four hours after death, considerable emaciation was noticed—integument a peculiar yellow color—pupils normal—rigor mortis well marked.

"SECTIO-CADAVERIS.—1. Head not opened. 2. Lungs and Heart normal. 3. Stomach inflated with gas, which, being collapsed, revealed a large abscess, probably originating in the glands near the cardiac extremity of the stomach. A great amount of pus and disintegrated matter was in the cavity, but no hardened edges, or any indication of its being of malignant origin. Liver very much enlarged. Weight 7¾ pounds. The left lobe extended to just across the mesial line, and was hardened and mottled. The right lobe was *very much* enlarged, filling the whole hypochondriac space, and crowding the diaphragm upward. Two large, rounded nodules, retracted in the center, occupied a great part of this lobe. Cutting through this, it had every appearance of being cancerous. The remaining viscera appeared perfectly healthy, excepting some of the mesenteric glands. At least, in one locality we found, upon opening a gland, what appeared to be the peculiar cancroid substance.

"REMARKS.—This case is very interesting, as we were able to prove our diagnosis, and also learn the cause of our perplexities and errors before we made the diagnosis. It is highly probable that the disease of the liver existed before his admission to the Hospital, but had not caused sufficient enlargement to be readily detected. The abscess connected with the stomach also ex-

isted, but it was more inflammatory, and caused all the symptoms of gastritis."

NOTE.—The reader will remember that in the August number of the *Examiner*, an Editorial statement was made in regard to this case. A specimen of the carncerous tissue was examined under the microscope, but none of the cells supposed to be characteristic of cancer were found.

This brings us to the much discussed question as to the value of the microscope in the diagnosis of cancer, which, in simply recording the case, is not our province to discuss.

ARTICLE XXIV.

A CASE OF OVARIOTOMY.

BY M. A. CHASE, M.D, Siruoza, Wisconsin.

On July 4th, 1869, Miss M., aged 35, of sanguine, nervous temperament, consulted me in regard to a dropsical distension of her abdomen, and gave me the following history of her case:—

One year previous, while attending school, she noticed her abdomen was enlarging—did not know there was anything wrong with herself previous to this time; the distension commenced equally on both sides—no tumor or hardness in either side—was regular in menstruation.

She kept slowly filling up until the day I first saw her; Miss M. was looking pale and anemic, and had disease of the mitral valve.

I put her upon the use of digitalis, combined with a tonic, and an occasional hydroguge cathartic. Three weeks later, I visited her, and found the abdomen greatly distended, interfering with respiration, and patient unable to lie down. I introduced a trocar at the usual point, and drew off 15 quarts of pale, straw-colored fluid, of low specific gravity. A careful and thorough examination of the abdomen externally, did not reveal the presence of any tumor, and, previous to tapping, the pa-

tient, lying upon the back, gave the usual symptoms of ascites, fluctuation of the abdomen, and bulging at the sides. Continued my first prescription.

Eight weeks later, I visited the patient again, and found the abdomen distended as before; introduced the trocar, and drew off 14 quarts of dirty, greyish fluid, highly albuminous.

A careful examination of the abdomen at this time, showed the existence of a small tumor high up on the left side, under the cartilages of the ribs. Six weeks later, tapped again; fluid same color and amount as before. Tumor increased in size to nearly four times its size on discovery, and reaching down to the umbilicus, crescentic in shape, convexity looking to the left side, and concavity to median line of the body; the tumor had a peculiar hard feel. Drs. Tinker and Gatt saw the case with me, at this time. The tumor making its appearance in the position it did, and growing down into the abdomen was rather against its being ovarian. The patient, an old maid, would not permit a vaginal examination. The consultation threw but little light on the important subject of "what's the matter?" From this time to June 1st, 1870, the patient was tapped six times. At the last tapping, upon getting permission, I made an examination per vagina, and found the uterus drawn up so far I could not reach it. The solid part of the tumor had changed its shape, was nearly round, and fluctuated slightly. Came to the conclusion that the tumor was ovarian, told the patient so, and, as her health was failing, and she rapidly filled each time after tapping, I advised an operation. Her consent and that of friends having been obtained, the 11th day of July was set for the operation — the patient placed immediately upon the use of tr. ferri. gtt x. 3 times a day. On the 10th inst., I proceeded to the residence of my patient; found her in pretty good condition, and feeling hopeful. Ordered a mild purgative.

On the morning of the 11th, assisted by Drs. Tinker and Gatt, I proceded to operate, the patient's bowels having been freely moved the night before. The urine was drawn off; I introduced the trocar and drew off 20 lbs. of highly albuminous

fluid of a dirty greyish color. The tumor extended from under the ribs, down below the umbilicus. Gave Morph. sul. gr. *ss*, in half ounce brandy. The patient was placed upon the table, and the anæsthesia commenced with a mixture of one part chloroform and two parts ether. After spending some time with this, and the patient not coming fully under the influence of it, one drachm of pure chloroform was used, producing full anæsthesia. Temperature of room, 77° F. Everything being in readiness, I made an incision on the median line, midway between the umbilicus and pubis, including the wound of the trocar, down to the peritoneum, making a small opening through this membrane, I introduced a probe pointed bistoury, and enlarged the opening each way to the extent of about an inch and one-half; introducing my finger I found extensive adhesions. I enlarged the opening upward about four inches, making an opening seven inches in length. Introducing my hand, I proceeded, as gently as possible, to break up the adhesions by tearing the fibrous bands from the surface of the tumor. Some were very firm, others not so firm. Brought forward a cyst the size of a quart bowl; introduced the trocar and evacuated the contents.

Passing my hand up on the left lateral and anterior surface of the tumor, I found the adhesions very firm, the walls of the tumor and peritoneum adhering firmly together over a large surface. I broke up the adhesions at this point by slowly working my fingers between the peritoneum and tumor. Considerable force had to be used. Passing my hand under the tumor it came in contact with fibrous bands connecting the intestines and tumor; these were torn from the surface of the tumor. The tumor being free, was lifted from its bed in the intestines; the intestines were covered with soft cloths wet in warm water. The pedicle was thin, about 3½ inches broad, and supplied with large bloodvessels.

It was tied with a ligature made of saddler's silk doubled —a needle armed with a double ligature of this was passed through the centre of the pedicle, close to the tumor, and tied both ways with three knots. The pedicle was then separated

from the tumor with the scissors, the ligatures were cut short, and the stump returned to the abdomen. Some blood among the intestines was removed by a very soft cloth, wet in warm water, and laid on the intestines to absorb the blood.

The wound was closed by four silver sutures, carried *through* the peritoneum, and long strips of adhesive plaster placed between the sutures. Two narrow compresses, wet in warm water, were placed one on each side of the incision, and a broad flannel roller passed around the body. Patient placed on her bed with shoulders and feet elevated.

Operation ended at 12.20. Tumor multilocular, weighing 35lbs. Pulse 90; gave morph. sul. gr. 1. 12.35 P.M. Patient complains of great pain in abdomen; gave 20 gtt. tr. opii. 1 P.M. Extremities cool; ordered warm dry flannels; pain continues—½ gr. morph. sul. 3 P.M. ½ gr. morph. sul. Pulse 100. 4 P.M. Patient inclined to dose.

6 P.M. Pulse 108; ¼ gr. morph. sul. Examined wound and found but little oozing. Patient allowed small pieces of ice in the mouth and iced milk. 8 P.M. ¼ gr. morph. sul.; patient comfortable.

July 12th—6 A.M. Passed catheter; patient slept some. Had ¼ gr. morph. sul. every four hours. Pulse 100—good; examined wound—found but little oozing. 9 A.M. Pulse 93, soft; ¼ gr. morph. sul. 10 A.M. Patient vomited a little curdled milk; oozing of bloody serum from lower angle of wound. 1 P.M. Vomited a little; pulse 90, good. 6 P.M. Pulse 100; tongue dry in the centre, and skin dry; cheeks slightly flushed. Ordered ½ gtt. fl. ex. aconite rt. every hour. 7 P.M. Wound looking well; slight tympanitis of abdomen—not tender—free from pain—catheter. Respiration 20; pulse 112. 10 P.M. Pulse 98, soft; tongue not as dry; aconite to be given every two hours; allowed ice *ad libitum*. 12 M. Pulse 100, easy.

July 13th—6 A.M. Slept some. Pulse 100, soft. Tongue moist—catheter. 12 M. Some tenderness in abdomen; ¼ gr. morph. sul. 8 P.M. Pulse 108, soft; catheter. July 14th. Slept nearly all night; pulse 100; wound looking well; catheter. Slight distension of abdomen from gas, for 48 hours past,

leaving. The respiration has been good at all times. 6 P.M. Pulse 96; wound looking well; bowels feel like moving off; gave injection of strong soapsuds, and brought away a large quantity of feces. July 15th—6 A.M. Some pain in back; ¼ gr. morph. sul. Allowed mutton broth. July 18th. Pulse 70; removed sutures; some suppuration around sutures; wound healed by first intention.

21st. Patient doing well.

27th. Patient up about the house.

August 12th. Patient at work about the house, feeling as well as ever, and gaining flesh rapidly.

ARTICLE XXV.

REPORT ON PRACTICAL MEDICINE.

By JAMES S. WHITMIRE, M.D., of Metamora, Ill., one of the Committee.

Mr. President and Gentlemen of the Illinois State Medical Society:

Not having been apprized by your Chairman of this Committee, of any specified plan that he wished to have carried out in this report, I have been compelled, in this, to draw from my own resources, and those of the physicians living in Mason, Tazewell, Woodford, Marshall, and Livingston Counties. I, therefore, as one of your Committee beg leave to submit the following report:—

The Counties above named, all, with the exception of Livingston, border upon the Illinois River, its eastern shore being their western boundary; hence, in the variety and character of their soil, they are not surpassed by any equal number of Counties in the State.

The topography of these Counties is the most varied and beautiful; they being interspersed with natural groves, with, here and there, the most enchanting streams and rivulets, that wend their way to the placid waters of the quiet Illinois. The praries are gently undulating, and are now subdued by the

magic hand of civilization, till they do, in fact, blossom as the rose and yield their rich fruits in harvest to the frugal husbandman.

Besides the Illinois River on the west, these counties have, traversing their full extent, the Sangamon, Mackinack, and Vermillion Rivers, and the lesser streams of Salt Creek, Sugar and Crow Creek, to say nothing of an immense number of still smaller streams, that are known only in their separate localities. More than two-thirds of this vast extent of country is prairie, which is well settled and under thorough cultivation. Its altitude above the city of Cairo, at the confluence of the Ohio and Mississippi Rivers, is about 600 feet. The water mostly used by the inhabitants, for culinary and other purposes, is limestone, or "hard water," as it is usually called. The lands of these counties are generally arable and produce the finest crops of the different cereals.

There is but a small quantity of bog, or marshy lands, in these counties, and they are situated along the Illinois River, most of which are subject to the annual overflow of that stream, rendering them useless for any purpose, except that of stock range, the latter part of the season.

During the year 1869, there was more rain fell in this section than probably ever fell before, in the same time; and had the season been hot, as well as wet, we might naturally have expected a great amount of sickness; but as it was, there has never passed as healthy a season, since I have lived in the district, which is now 24 years past. During this rainy season, which lasted till near the last of July, there was only the ordinary sickness of the spring months, such as rheumatism, bronchitis, croup, etc., with an occasional attack of intermittent fever; and these easily yielded to the usual remedies, there being nothing particular or striking in either their character or type.

During the months of August and September, however, the mercury ranged from 82° to 96° Fahrenheit, at noon; so that the whole surface of the earth which, till now, seemed a common cesspool, suddenly dried up, so that there was no chance,

in most localities, for the production of malarial poison; hence, during this time, we had but little more than the usual amount of malarial fevers. Many of the cases, however, that did occur, were of the typho-malarial type, and, consequently, yielded less readily to treatment, than the simple remittent fevers of former years.

The winter of 1869–70 substantially set in about the 1st of November, and bid fair, at the start, to be an unusually severe one. It proved, however, to be a long one, but the mildest for many years; the frost being out of the ground by March 20th, 1870; mercury never having dropped, during the whole time, below 6°, below 0. During this time, we had an unusual quantity of acute and typhoid pneumonia, acute and sub-acute bronchitis, croup, rheumatism, etc., none of which exhibited any special peculiarities; unless, perhaps, there was exhibited a greater amount of malarial influence connected with them, than has been common of late years, in our ordinary winter fevers, and the grade of vitality of our patients was possibly lower than usual. These conditions, however, being met by their appropriate remedies, we found the diseases of last winter, notwithstanding their prevalence, equally as amenable to remedies, as on other occasions, and the mortality was no greater than at other times, or seasons. Our treatment of these cases of lowered vitality, as well as those presenting malarial influences, has not differed from that usually pursued by the profession; hence, in a supplemental report like this, we think it would add nothing to the interest of the Society, to give it in detail.

INFECTIONS AND EPIDEMICS.

The village and vicinity in which I reside—Metamora, the county seat of Woodford county—has had no visitations of this character of diseases for several years. During the past winter, however, the eastern portion of this county, and LaSalle, Livingston, Tazewell, and Marshall counties have all been pretty thoroughly scourged with scarlatina; it appearing in those counties, in certain neighborhoods, as an epidemic, and presenting itself in its most malignant form. This was the case more particularly in the eastern portion of Woodford, southern

LaSalle, and northern Livingston. The facts, in regard to this scourge, I have learned through the favors of Drs. Wilcox and Stoner, of Minonk, and Drs. Lewis and Cole, of El Paso, all of whom have been extensively engaged in the treatment of the malady. They inform me that, so far as they can see, this epidemic has not differed, in any particular, from others that has formerly appeared, nor has it been either more or less fatal than in its previous visitations. Their treatment has been of a sustaining character, such as iron, quinine, chlorate of potassa, etc., internally, with mild laxatives, when necessary, of castor oil, rhubarb, etc.; and, in case the bowels are too lax, which, in this epidemic has been frequently the case, they have derived great advantage from the terebinthinate emulsion, in connection with creosote and laudanum. Their patients were sponged every day with warm alkaline water, and kept in a clean, airy room, with plenty of beef-tea or milk as food. Under this regimen and treatment, their patients generally recovered. I will simply remark, in this place, that I have used a gargle or throat-wash, in this and similar affections, that, in my opinion, is a great improvement over anything that I have seen recommended for this purpose. It is made as follows:—

℞.	Alcohol,	℥ss.
	Elix. of Vitriol,	℥ij.
	Sulp. Alum,	℥j.
	Creosote,	gtt., xl.
	Ol. Cinnam.,	gtt., xxx.
	Syrup Simp.,	℥iijss.

The patient, if strong, or old enough, may gargle with this mixture, or the fauces and pharynx may be swabbed by an assistant; and though this will be found to be pretty sharp at first, yet the comfort that immediately follows its use, makes the patient not only reconciled, but ask to have it used.

Aside from the prevalence of this epidemic, in the above counties, there has been no prevalence of any other than their ordinary winter fevers; and they have shown much the same characteristics as the diseases in our vicinity.

During the latter part of March, we have had in our practice

two well-marked cases of cerebro-spinal meningitis, both children, one 12, a boy, the other a girl 14 years of age. The nature, course, and character of this dreadful disease are now so well understood by the profession, that it would be useless, in this place, to occupy the time of this Society with their details. But I would beg the indulgence of the Society, while I give, in as succinct a manner as possible, the principle of my treatment of these two cases. The treatment of this disease usually resorted to by the profession has, in my hands, and in those too of my compeers, proven so unsatisfactory, that I deemed it no disrespect to authority, to step out of the usual precincts of ordinary government, in such cases, and explore new fields for the benefit of myself, of science, and, more particularly, for the benefit of my patients. I, therefore, determined, with a full conviction of success constantly before me, to try what virtue there was in the use of hydrate of chloral, in quieting the restlessness that attends this disease. I wished also to produce sleep, allay pain along the spine, and relieve the apparent stricture around the chest, to moderate the frequency of the heart's action, and to relieve the permanent opisthotonos, that is one of the ever present characteristics of this disease. Certainly, this is one of the most formidable diseases with which the profession has to deal, and, with the most approved treatment, there is still a large per cent. of mortality to be recorded; hence, I felt perfectly justified in using any remedy, however lately it may have been brought to the notice of the profession, if, in my judgment, its acknowledged therapeutic action seemed to point towards the fulfilment of the indications to be met in this disease. Here, before me, was one of the most dangerous diseases that flesh is heir to. In my judgment, I saw in the hydrate of chloral one of our most formidable remedies, just suited to fill all the indications of treatment, necessary to give nature a chance to rally and overcome the diseased condition. And I am now pleased to be able to state to the profession, that from the favorable action of this remedy in these two cases, I consider this drug, in the treatment of this disease, a great acquisition to our stock of heroic remedies.

After thorough mercurial purgation, assisted by saline cathartics, I gave to these children from 10 to 15 grains of chloral, and one drachm of the officinal syrup of ipecacuanha, dissolved in 2 ounces of water, every three, four, or five hours, as the exigencies of the cases seemed to require. I enveloped the patients in a warm, wet sheet for an hour, once or twice per day, and laid around my patients, at the time, hot boiled ears of corn. When they were not in the pack, I kept warm, emolient poultices constantly applied to the spine. The bowels were kept in a soluble condition, when necessary, by the use of Sal. Rochelle, which, by the way, I will here remark, is seldom necessary, on account of the hyd. of chloral having a tendency itself to relax the bowels.

In the course of from three (3) to five (5) days, the most urgent symptoms began to subside, the pulse became regular, soft, and natural, the contraction of the dorsal muscles became relaxed, the skin became soft and natural, the urine, which had been scanty, was augmented in quantity, and the appetite began to return, so that in the course of seven or eight days from the commencement of the treatmemt, convalescence was fully established, and my patients, as I am fully satisfied, snatched from impending death. After the most urgent symptoms were allayed, say about the sixth day, I gave my patients one grain of quinine, three times per day, with a little Dover's powder; and at the usual bedtime, I ordered a dose of chloral, in order to insure tranquility and sleep, without which there can be no recuperation. This gentlemen, it is true, is a history of but two cases of cerebro-spinal meningitis, treated with this new and powerful remedy. The success was complete. I give them for what they are worth, and hope thereby to induce the profession to give this drug, in the treatment of this disease, a fair and impartial trial; and if, upon investigation by the light of experience, we have lessened the per cent. of mortality, in this disease, we will have disarmed it of more than half its terrors, and imbued the profession with a confidence hitherto unknown in the treatment of this terrible malady.

Just now, my attention has been called, while writing this

article, to a case of chorea, in a girl of 14 years of age, whom my brother, Z. H. Whitmire, has been treating for some two weeks. She is a delicately organized creature, and naturally very easily excited.

She has been taking chalybeates, nervines, laxatives, etc., without the least benefit whatever, and the young lady is manifestly growing worse from day to day, so that the family are in constant terror lest she may go into convulsions at any moment. I recommended hyd. chloral, gr. x, in aqua, ℥ij, at bedtime, each night; the first dose of which produced the first tranquil sleep the poor sufferer has had for more than a week. She is continued on Griffith's myrrh mixture, with assafœtida and quinine, during the daytime, and takes the chloral at night, which has constantly, as in the first instance, produced quiet sleep. She is becoming much more calm during the day, and is, at this writing, apparently improving. Certainly, in this case, whether the child is permanently benefited or not, this drug has acted like magic in quieting the unruly muscles, and in allaying the alarm of the friends.

May 22. This patient is completely restored to health at this date.

ARTICLE XXVI.

REPORT ON SURGERY.

By MOSES GUNN, M.D.

[Read before the Illinois State Medical Society, May, 1870.]

The Chairman of the Committee on Surgery commences his report by entering a plea of "guilty," to a charge which may properly be made of a long neglect of duty. A multiplicity of engagements conspired to prevent his corresponding with his compeers in the committee, until a period too late for such correspondence. Intentional discourtesy in this respect is disclaimed; and the failure on their part to forward to the Chairman any observations which they had made, leaves the construction of the report, at a late day, entirely to him. In

submitting his report, he will not attempt an exhaustive review of the surgical field for the past year, but will rather call attention to certain subjects which have arrested his attention, from their novelty or intrinsic merit.

EXCISION OF HIP-JOINT.

This operation continues to recommend itself to attention and confidence as one, which in certain cases, will afford perfect relief from an exhausting suppuration, and in conjunction with appropriate constitutional medication, diet, and regimen, will often restore the patient to even robust health.

The following points seem to be well established:

I. The immediate risk of the operation is not great; death, when it occurs, being rarely expedited by the operation.

II. The prospects of cure are greatly influenced by age, the operation being much more successful in childhood than after maturity.

III. When the operation is resorted to, it should be freely executed and all points of disease, either in the femur or acetabulum completely removed.

IV. A free drain upon the wound should be maintained until healing from the bottom occurs; for healing without suppuration is unattainable, even by the use of carbolic acid, and the presence of purulent accumulations greatly endangers a good result.

V. Only moderate extension during the healing process should be attempted, but that moderate extension is imperative.

These conclusions your reporter arrives at from both reported cases and his own experience.

NEPHROTOMY AND RENAL LITHOTOMY.

In April, 1869, Mr. Thomas Smith read a paper before the Royal Medical and Chirurgical Society, on the subject of Nephrotomy as a means of treating renal calculus. In this paper it is stated that Hippocrates mentioned and recommended the operation of Nephrotomy in certain cases attended by external swelling. But one case only of the operation, however, had ever occurred; that was a successful case on the person of the British Consul, at Venice, by an Italian surgeon, in the

seventeenth century. Since the presentation of Mr. Smith's paper, Mr. Simon, of Heidelberg, has successfully extirpated the kidney of a female patient, for an incurable urinary fistula, originating in a wound of the ureter made during an ovariotomy. In February of the present year, Mr. Durham, at Guy's Hospital, London, cut down upon the kidney for the purpose of removing a renal calculus. Unfortunately no stone was found. But, notwithstanding, his patient was greatly relieved by the operation. Your reporter has, also, during the current spring, in contemplation of an operation which he subsequently made on the sixteenth of April, repeatedly cut down upon the kidney in the cadaver. In the absence of definite directions upon the subject, these sections were made in order to arrive at a safe and expeditious method of operating. The following seems to be the only safe method which the anatomy of the region will permit: An incision is carried from the eleventh rib just over the outer border of the erector spinæ muscle, to the crest of the ilium, and down upon the surface of the outer layer of the lumbar fascia; this structure is now divided upon a grooved director, and the muscle is drawn inward and backward, by an assistant, with an angular spatula. The middle layer of the lumbar fascia is next divided in a similar manner to that pursued in division of the superficial layer; this incision will call for the ligation of two or three small arteries. The quadratus lumborum muscle is now drawn inwards and backwards with the erector spinæ, and the anterior or deep layer of the fascia is uncovered, an incision through which brings us to the posterior surface of the lower two-thirds of the kidney, obscured only by loose areolar tissue which contains variable amounts of fat, according to condition of the patient. Careful dissection of this tissue will now expose the hilus of the kidney and the expanded commencement of the ureter. Tactile examination will enable the operator to ascertain the size and firmness of the kidney, and also the condition of the pelvis of that organ, and the commencement of the ureter, which latter can be easily opened in case a renal calculus is found. Should the Surgeon, however, desire to push his operation further, he can carefully

and readily pass his index-finger around the kidney, separating it from the peritoneum; the upper extremity of the organ can now be dislocated from its position in front of the lower two ribs to a corresponding position behind them, and thus the whole organ is readily enucleated. This process of enucleation is now carried inwards along the renal vessels as far as may be necessary to enable the operator to pass a stout ligature around them, after which they are divided as close to the hilus as possible.

On the sixteenth day of April last, as before stated, I made an exploratory operation upon a patient of Prof. Allen's, who for five months had suffered from symptoms which indicated the probable presence of a renal calculus. The operation was conducted upon the plan described above, and was performed in the presence and by the aid of Prof. Allen, Drs. Chesbrough, Parks, and Smith, the latter gentleman being an uncle of the patient. But little blood was lost, and posterior surface of the kidney was readily reached, which position enabled us to make tactile examination of the pelvis and commencement of the ureter. But, like Mr. Durham, at Guy's, we were disappointed in our expectations of finding a calculus. The organ seemed shrunken and soft, but was not interfered with, as the patient had enjoined upon us, that in no event should the kidney be extirpated. A pledget of lint was laid on the bottom of the wound and with three ligatures was brought out at its lower angle, the upper half being closed with three sutures. The operation was borne well, though the patient was greatly reduced from his long and severe suffering. Like Mr. Durham's patient, ours, too, was greatly benefited by incision; the nausea which had been nearly continuous and exteme, was completely relieved, and the pain which had been severe wholly disappeared.*

COLLES' FRACTURE AND LUXATION OF ULNA.

One of the most important and interesting investigations in practical surgery reported during the past year is furnished

* The improvement was of six weeks' duration, after which time the old symptoms gradually re-appeared.

by Prof. E. M. Moore, of Rochester, N. Y., in the *Medical Record.* In the estimation of your reporter, this paper should be thoroughly studied by every practitioner who undertakes the treatment of fractures and dislocations. Entertaining this view, we shall briefly consider the principles involved. It is known to every surgeon of experience that the fracture of the radius, just above the wrist joint, known as Colles' fracture, is, very frequently, one exceedingly difficult to manage, and often followed by very imperfect form and function of the wrist-joint. A fatal accident, a constituent of which was Colles' fracture upon both arms, enabled Prof. Moore to examine the parts by a careful dissection, a description of which, in Prof. Moore's own words, is here incorporated in this report:

"In May, 1869, Mary Tumey, aged 45, in a paroxysm of insanity, threw herself from the third story window of St. Mary's Hospital, striking the ground with both hands; receiving also a blow on the spine, opposite the second and third dorsal vertebræ. The spinal cord was crushed, and both wrists broken, producing Colles' fracture. She breathed but twenty minutes.

"The condition was uncomplicated with any effusion, except a trifling amount of blood, or with any modification from muscular action.

"The examination of the right arm was commenced by removal of the skin from over the wrist, leaving the fascia of the forearm undisturbed. Rotation of the hand did not produce crepitus.

"The projection of the wrist backward was that of an extreme case of this fracture, and the ulna was carried well downwards and outwards from the axis of the forearm. On raising the fascia, the lower fragment was seen to ride the back of the upper one, or the main shaft of the radius, and to be placed at right angles to its natural position, while the hand was in a state of extreme flexion in relation to it. There was not the slightest impaction. The absence of crepitus was explained by the fact that the rough surfaces were not in contact. The fracture was transverse and the surface of the lower fragment,

which was about half an inch in length, came in contact with the periosteal surface of the back of the upper fragment or main shaft. The entanglement permitted rotation, but not crepitus. The next step in the manipulation was to press the displaced fragment into its place. I was surprised to find a resistance which seemed like muscular action. This being manifestly impossible, the cause was again sought for by a repetition of the movement, when the same result was produced, giving an elastic rebound.

"The solution was found in the peculiar position of the ulna, its luxation and ligamentous entanglement.

"It will be remembered that the ulna does not articulate with the wrist-joint, but that its head, although covered with cartilage, and provided with a synovial membrane, and of course a complete joint surface, articulates with the triangular fibro-cartilage. The anatomists emphasize this arrangement so decidedly, that we are apt to forget the important fact of the articulation by the triangular fibro cartilage on its distal surface with the wrist-joint. Thus the ulna has a mediate articulation with the wrist-joint, a fact of great practical significance. It will also be remembered that the fascia of the forearm is very much strengthened at its lower end, and that the extensor muscles run in grooves constructed from it, and that its transverse fibres, under the name of the posterior annular ligament, run across to the pisiform bone, some of them passing over the head of the ulna. The internal lateral ligament passes from the end and inner surface of the styloid process to the cuneiform bone. The triangular fibro cartilage also subserves the purposes of a ligament, making an insertion in the pit at the base of the styloid process, but with a stronger attachment to the radius. The ulnar extensor runs in a sheath of the fascia, and as can be seen and felt upon the living arm, takes a course between the styloid process and head. But while it is really on the back of the forearm, it is so far upon its side that the tendon plays upon the side of the head and furnishes a lateral support. The tendon is just above the internal lateral ligament. The cause of rebound now became manifest; for the

styloid process was so for projected as to catch the fibres of the annular ligament, and the ulna being prevented from rising forced the wrist back. Various attempts at reduction were made at this stage of the examination. The ordinary plan of bending the hand toward the ulnar border of the forearm resulted in tightening the annular band on the styloid hook, and no pressure on the anterior surface of the ulna could cause its liberation, but on the contrary, insured its retention. Simple extension also failed to relieve the entanglement and restore the luxation, but a movement described below was entirely successful, and when the parts were all replaced, the tendency to displacement was inappreciable. An incision through the annular ligament revealed the nature of the separation. The internal lateral ligament was torn away from its attachment to the styloid, by separating the scale of compact bony tissue composing its end and inner surface (the ligament proving stronger than the bone), thus leaving the styloid as a rough and ragged hook to hold the annular ligament. The attachment of the triangular fibro-cartilage to the styloid was also torn off, but the rent was through the cartilage, leaving a few tags at the pit. The complete severance of all ligamentous restraint permitted the ulna to bulge outward and downward; and as the hand is carried backward and upward, the styloid hook is moved forward and held at the pisiform bone by the annular ligament. The ulnar extensor was carried toward the radial side of the ulna. When the ulna became free from the annular ligament, its head was moved toward the radius, and through the fibro-cartilage, rested against the wrist-joint, thus holding the hand out at full length, keeping the fractured ends of the radius in apposition, and furnishing the best of all splints—an entire parallel bone, in place. Thinking it possible that the condition found might be pecular, I proceeded at once to a similar examination of the left wrist. The fracture was oblique in two directions. Commencing within a-quarter of an inch of the wrist-joint on the palmar surface, the line ran back to three-fourths of an inch, inclining to the ulna. The position of the ulna was the same as on the right side; the rupture of the in-

ternal lateral ligament took place in the same way, carrying rather more of the bone tissue than on the right side. The triangular fibro-cartilage was torn out with similar tags and the annular ligament was folded into a similar cord, causing a rebound when the lower fragment of the radius was carried down into its place. The only point in which the two differed was in the line of fracture, which seemed not to bear the least upon the question of reduction or retention.

"The fibres of the pronator quadratus were a little torn in both cases, but I could not perceive that there was any influence exerted by it or any other muscle or tendon in preventing reduction. As before stated, the autopsy exhibits a case of what may be termed an extreme condition of this form of injury.

"It is altogether probable that fracture of the radius may occur with which there is no complication of ulnar luxation. In these cases, there would be but little deformity, and crepitus would undoubtedly be a matter of easy determination.

"A good result with almost any treatment would also be probable. But a force competent to fracture the radius, if not expended, would generally be able to rupture the ligaments, in consequence of the immense leverage that the hand acquires with the head of the ulna resting mediately on the carpus. When the internal lateral ligament and triangular fibro-cartilage yield, the annular ligament becomes slipped over the head and on the styloid hook. In order to determine the succession of movement in the ligamentous rupture, I subjected the arm of the cadaver to a force gradually applied, after having made a fracture of the radius just above the wrist-joint. This was effected by strapping the arm firmly down and attaching a lever to the hand, then bending the latter well back with a slow but irresistible force. The hand began at once to describe a circular sweep upward, backward, and toward the ulna; in short, such a movement as would necessarily occur with the short fragment, held by the radio-ulnar ligament. The bulging of the ulna outward and downward preceded the rupture of the internal lateral ligament. But the fascia of the forearm lying

on the ulnar head became stretched, and fibres of the annular ligament slipped over it. As the force was continued, a double snap, loud and sharp, was produced by the breaking of the internal lateral ligament and the triangular fibro-cartilage—apparently in the order stated. The end and internal surface of the styloid was broken off. The annular ligament at the same moment was caught on the styloid, presenting precisely the appearance shown by the autopsy.

"If there should be an arrest of movement before ligamentous rupture, the difficulty is one of simple fracture uncomplicated with luxation of the ulna. The annular ligament, though drawn a little over the ulnar head, would not be likely to interfere with reduction. But when the internal lateral ligament and triangular fibro-cartilage give way, the displacement of the ulna assumes a definite shape, and in this resembles the other regular luxations which are determined by constant forces.

"The autopsy and subsequent experiment render it evident that we have, in the injury usually known as Colles' fracture, not a mere break of the bone, but a luxation, to deal with.

"The displaced ulna is always noted, and surgeons have had various suspicions of ruptured ligaments. But it has not been regarded in the light of a luxation with a regular position, which must be rectified before replacement of the fracture should be made, and without which imperfect results are to be expected. This, I am convinced, is the key of the difficulty. Reduction of the luxation must first be made, and then the fracture is probably of all others the most insignificant. But no theory can be of much importance without the support of cases, and it has been my good fortune to have the results of my treatment subjected to tests sufficiently numerous to place the matter at rest as a practical plan. The mode of procedure is as follows:—

"The patient may be etherized or not. An assistant holding the forearm of the patient, the surgeon grasps his hand, the right with the right, and *vice versa*. With the other hand placed under the forearm above the fracture, he is enabled to bring the thumb over the back of the ulna, the fingers wrapping

around the radius. Traction is first made by extension, then drawing the hand laterally to the radial side, then backward, next keeping it held backward, and while making extension, it is swung toward the ulnar side, bending well laterally, when the extension of the hand is changed for flexion, thus describing nearly a semicircle in circumduction. The position of the hand grasping the forearm undergoes constant change, as it is the antagonist of the other hand in every thing but the extension. As the backward position of the hand, when it is carried to the extreme ulnar side, is changed to flexion of the hand, the thumb of the surgeon rolls around the border of the ulna, and is below when the manœuvre is complete. The test of reduction is to be found by the presence of the head of the ulna on the radial side of the ulnar extensor."

Thus it is seen that the important feature of a Colles' fracture may be, and undoubtedly often is, a complicating dislocation, which, when reduced, renders the management of the case thereafter very simple. Your reporter desires to call attention to the method of reduction adopted by Prof. Moore. It will be noticed that the position which he makes the hand first assume, is contrary to that which is usually practiced by surgeons, and temporarily greatly increases the deformity. But it conforms to a general principle laid down by your reporter some years since, *viz.:* to place the dislocated member as nearly as possible in the identical position which characterized at the moment of escape from the joint.

In this connection I desire to relate a case what at first would seem a very simple affair, but which involves a principle almost identical with that which characterizes the complicating dislocation of a Colles' fracture.

During the past winter, a well-developed laboring man presented himself with a dislocation of the terminal phalanx of the right thumb. The displacement was backwards and outwards. I was informed that the luxation had occurred five or six hours previously, and that several medical men had unsuccessfully essayed its reduction, among whom I recognized at least one expert surgeon. I also made the attempt after the usual man-

ner of reducing phalangeal dislocations, and though extreme effort was used, I, too, was unsuccessful in my first attempt. I now sought to discover the impediment to reduction. A little reflection recalled the fact that the tendon of the long flexor is inserted into the anterior surface of the very base of the phalanx, and that from its position in the dislocation, it (the tendon) must be hooked around the side of the head of the first phalanx; while, from the proximity of that portion of the tendon which was in contact with the side of the head to the point of insertion in the luxated bone, all ordinary efforts at reduction only more forcibly hooked the tendon in its abnormal position. I determined to act upon this view of the case, and, so confident did I feel in the correctness of my position, I determined to take him before the Medical Class for the trial. Seizing the first phalanx with my left hand, with my right I carried the luxated bone still further outwards then forwards, and lastly inwards, all by one sweeping, semi-circular motion, by which means reduction was almost instantly accomplished.

This little case also conforms to the general rule laid down above; and, also, illustrates the advantages of intelligent manipulation over mere force, in the management of luxations.

ARTICLE XXVII.

USE OF CHLOROFORM IN OPHTHALMIC SURGERY.

By H. W. BOYD, Professor of Anatomy, Chicago Medical College.

The discoveries of Chloroform and Ether are considered among the greatest achievements of modern science, and their administration as anæsthetics for the alleviation of pain in surgical operations has become a world-wide practice. There are many cases which, in all probability, would never be cured, were it not for the fact that the patient could be made insensible to pain during the performance of a surgical operation necessary for the cure of the disease. It has become the practice of many surgeons to administer anæsthetics indiscriminately to all

classes of cases, whether the operation is attended with much pain or little. This, I think, is wrong; for there is a class of operations in which the use of anæsthetics should be refrained from, save in exceptional cases, where the patient is irritable, restless, without self-control, and refuses to be operated on unless he has chloroform or ether. The indiscriminate use of anæsthetics has, no doubt, been a prolific source of mischief; doubtless many cases of death from chloroform might have been avoided had a little discriminating care been exercised in considering the character and constitution of the patient previous to its administration. Persons have died from chloroform where the operation was so trivial that no anæsthetic was really required, such as extracting a tooth. But the class of cases to which I would allude as not requiring anæsthetics are those included under the head of Ophthalmic Surgery. There are but few operations connected with the eye in which they should ever be used. There is a popular and correct feeling that the eye is an exceedingly delicate organ, and yet the eye is not so highly sensitive as to give rise to much pain in many of the operations performed on it. Take, for example, the operation for extraction of cataract; the pain attending it is not severe,—in fact, it is only trivial; and yet it is the custom of of most surgeons to administer an anæsthetic for this operation. After some observation on this point, I am satisfied that the percentage of success is greater in the hands of those who operate without, than it is with those who always use them. Nearly every operator of extended practice can point to cases of failure in his own experience, which he lays to the use of chloroform or ether. In this operation, aside from the risk of death from the chloroform, it is of material advantage for the surgeon to have the co-operation of the patient, as this will facilitate the exit of the cataract, and at the same time we have none of the risks from the dangerous excitement or restlessness and vomiting caused by the anæsthetic; and we also avoid the nervous prostration which is liable to derange the appetite and affect the functions of nutrition and digestion, which may have very material effect on the healing process, especially in persons

somewhat advanced in life, to which class a large majority of cataract patients belong.

The operation for iridectomy is attended with but little pain, and may be better performed without than with anæsthetics. The same remark applies to staphyloma or entropion. In the operation for strabismus, not much can be accomplished with any degree of certainty, unless the patient co-operates with the surgeon, which he is not capable of doing if he is under the influence of an anæsthetic. In this operation, I believe, much mischief has been accomplished by operating while the patient is under the influence of an anæsthetic. Under such circumstances it is impossible for the surgeon to tell when he has divided a sufficient amount of tissue, and he is liable to divide too much, and cause the visual axes to diverge; or, being a careful, prudent, operator, he may fail to divide quite enough and allow a certain amount of convergence or divergence (according as the case is one of convergent or divergent strabismus) to remain; and, in such an event, he must either administer more of the anæsthetic and operate again, or he must postpone until some future time and perform another operation.

And aside from all this unpleasantness, the fuss and struggle sometimes experienced in getting the patient under the influence of the anæsthetic, and the vomiting and disagreeable sickness resulting from it, really causes the patient more suffering than the pain attendant upon the operation. A little resolution and fortitude on the part of the patient will be of infinitely greater service to both patient and surgeon than any amount of anæsthetics. This is true of nearly all operations on the eye, except, perhaps, enucleation of the eye-ball, or some plastic operation on the lids. I do not wish to be understood as undervaluing anæsthetics, for no one can have a more exalted appreciation of their value than myself. In amputations, resections, large tumors, or small but deeply-seated tumors, plastic operations, and operations where extensive dissecting is required, and, in fact, nearly all the operations of general surgery, it would seem now impossible to get along without anæsthetics. But in operations where the pain is so slight that

the patient does not suffer materially, and where it is of great advantage to have the co-operation of the patient, then the administration of anæsthetics should be dispensed with, save when the patient has no resolution or self-control, and will not submit to the operation without it.

ARTICLE XXVIII.

OHIO STATE MEDICAL SOCIETY.

VACCINAL SYPHILIS.

PART OF A REPORT ON VACCINATION.

By WM. B. DAVIS, M.D., of Cincinnati, Ohio.

Over seventy years have elapsed since the introduction of vaccination by Jenner. The majority of the population of the civilized world have been vaccinated. If the vaccine lymph will convey constitutional diseases, other than vaccinia, its wide-spread use, during these seventy years, will show a large increase of constitutional affections.

A careful examination of the record for this period does not show that there has been such an increase. On the contrary, statistics, according to Farr, Greenhow, and others, prove that scrofula and other constitutional diseases have diminished, and that the average duration of life has been extended, since the introduction of vaccination.

The *British and Foreign Medico-Chirurgical Review*, for Jan. 1869, makes the following statement, page 126: "It can not be disputed that the average tenure of life has been lengthened by vaccination, and that a most horrible and disgusting disease (which, where it did not kill, often rendered its victim blind or deaf, and generally hideous for the remainder of life) has been well-nigh exterminated.

Niemeyer of the University of Tubingen, in his recent work Practical Medicine says on page 553, Vol. II: "All objections to vaccination, even if well founded, would to have to give way

to the facts proved by statistics, that in the last century one-tenth of the population died of small-pox (about 400,000 people dying of the disease every year in Europe), another one-tenth were disfigured by the disease; and that since the introduction of vaccination, the general mortality is less, and that of small-pox is reduced to a minimum."

There are certain cutaneous eruptions which follow the operation of vaccination, just as they may follow teething, or any other slight constitutional disturbance. Mr. Padget pointed out this fact twelve years since, when he wrote that "multitudes of children are naturally predisposed to the commoner eruptions, and that vaccination is only one of the trifling constitutional irritations, which might have precipitated the first appearance of such eruptive diseases." And more recently Niemeyer, in his Practical Medicine, says: "We know that blisters and other irritants to the skin, not only induce inflammation at the point of application, but also increase the predisposition to other cutaneous affections. Many children who have never previously suffered from any exanthema, are affected for months with moist eczema of the face, after having their ears pierced, as well as after vaccination.

Vaccine lymph, when long exposed to air and moisture, will undergo the same putrefactive changes that any other animal matter does when similarly exposed; and if inserted in the arm of a subject, will produce the same effects that any other putrid matter will produce. When erysipelas or pyæmia follow the use of decomposed lymph, the vaccine is not at fault, but the vaccinator, who has been criminally careless, or criminally ignorant.

The advocates of transmission, however, do not press these minor points, and seem, indeed, to have abandoned their claim for the transmission of all constitutional diseases but that of Syphilis. Upon this one disease they rally their full strength. I shall, therefore, now invite your attention to the consideration of the possibility of engrafting syphilis by means of Jennerian vaccination.

It is a fact worthy of notice, that a large majority of all the reported cases of vaccinal syphilis, have occurred in France and

Italy. In England, where vaccination is more systematically pursued, and where the official inspection, to which it is subjected, would render the escape of any abnormal development impossible; there are but a very few cases reported.

Whether or not, syphilis, independent of vaccination, is more prevalent in France and Italy than other countries, is a consideration of some moment in its bearing on this question. An affirmative answer might suggest a satisfactory solution of vaccinal-syphilis, so far as these two countries are concerned, without implicating the vaccine lymph.

According to Padget, the transmission of syphilis by means of vaccination, is opposed by pathological considerations. Such pathologists as Rokitansky, Skoda, and Hebra maintain that the insertion of a matter containing the virus of two different contagious affections, is followed by the production of but one disease. That is, if the matter used be a mixture of syphilitic and vaccine virus, either distinct syphilis or distinct vaccinia is the result; not both of them.

It is opposed by direct experiment. Lymph intentionally taken from vaccine vesicles on syphilitic subjects, produced only vaccination.

M. Delzenne recently reported in the Imperial Academy of Medicine, Paris, that in 1865, he had inoculated himself twice with vaccine from syphilitic subjects, and the result was negative. In September, 1866, he vaccinated a syphilitic patient, 21 years old, "who had numerous ulcerated, hypertrophied papules in vulva and perineum, a general papular eruption (syph) over body and mucous patches in the mouth and throat. On the eighth day he vaccinated himself in four places with the virus from this patient, and the result was negative. He also, at the same time, vaccinated seven females (free from syphilis) with the same lymph. The effect so far as syphilis was concerned was entirely negative—four responded perfectly to the vaccine.

M. Bourguel reported twenty cases, whom he had vaccinated with lymph from the arms of two syphilitic subjects, and the result was negative for syphilis. M. Guerín reported fifty-five experiments, combining all the characteristics of scientific ex-

periment, which responded negatively to the artificial production of vaccinal syphilis.

These confirm the experiments previously made by Cullerier, Taupin, Heim, and others.

If, however, the matter from a chancre be accidentally or intentionally inserted in the arm of a patient, it will produce syphilis, but the lymph from a vaccine vesicle on the arm of a syphilitic subject, will only produce vaccinia, just as the lymph from a vaccine vesicle on a patient who is broken out with the small-pox (the vaccination having been performed too late for protection), will only produce vaccination, while the pustules by its side will produce small-pox.

It is opposed by the experience of the greatest vaccinators and syphilographers. West, with an experience of 26,000 vaccinations; Marson, with 40,000; Sir W. Jenner, with 13,000; Seaton, with 50,000; Tomkins, with 50,000; Perkins, with 40,000; Loines, with 200,000; Clendenin, with 16,000, and many others who might be named, have never met with a case of vaccinal syphilis.

The following question was addressed by Mr. Simon, in 1856, to the most distinguished medical gentlemen of Germany, France, and Great Britain: "Have you any reason to believe or suspect that lymph from a true Jennerian vesicle has ever been a vehicle of syphilitic, scrofulous, or other constitutional infection to the vaccinated person?" Nearly six hundred replies were received, and they were almost unanimously in the negative. Among whom were Padget, West, Marson, Tomkins, Acton, Lee, Parker, Chomel, Bright, Watson, and Brodie.

A large proportion of the reported cases of vaccinal syphilis rests upon insufficient or defective evidence, and the remainder may be reasonably accounted for, without compromising the vaccine, on the grounds (1) of the influence of prevailing diseases; (2) a cachetic diathesis, and (3) latent constitutional syphilis.

Vaccinal-syphilis had but few advocates, either in or out of the profession, until the so-called epidemics of "Rivalta," in 1861, and subsequently of "Auray" (provinces of Italy and

France) made their appearance. These epidemics aroused the attention of the profession, and led to a thorough investigation of the causes which produced them.

Concerning the "Rivalta" cases, Ricord says: "For our part, an attentive perusal of the documents of the case, has led us to the same conclusion as Dr. Abertetti, who exonerates from all blame the vaccination in question." With reference to the Auray epidemic, Dr. Anstie, in the *Practitioner*, of November, 1869, says: "Upon the whole evidence we say, decidedly, that it is not proved that the epidemic of Auray was an epidemic of syphilis at all, far less that it was an epidemic of vaccine syphilis."

Dr. Seaton calls attention in his *Handbook* to the fact, that long before vaccination was heard of, Astruc recorded epidemics of syphilis, which were full as disastrous and as unaccountable as that of Rivalta.

In the recent discussion in the French Academy, M. Depaul, Director of Vaccination, reported a large number of cases of vaccinal syphilis, as having occurred in the arondissements of Lorient and Vannes.

M. Fouquet stated that there were other vaccinations in those districts with accidents analogous to those reported by M. Depaul, *viz.:* highly-inflamed pustules, large deep ulcerations, abundant eruptions, etc., but that these accidents had not an impure origin, and presented nothing suspicious, although the characters noted by him had the greatest analogy with those reported syphilitic by M. Depaul. M. Guerin asserted that the explanation of those cases of M. Depaul, was to be found in a general erysipelatous diathesis prevailing in those departments. He called attention to the fact that any local irritation would develop a latent constitutional taint, and said that *vaccination would not be a port of entry for syphilis, but a means of exit.* In support of the assertion that prevailing diseases modify vaccinations and produce suspicious sores, he referred to the work of M. Lalagade, Director of Vaccinations of Tarn. On May 25th, he vaccinated 95 children with lymph from a healthy child. On June 6th, a number of them were found in a sad

condition, "the skin was of a deep red, with erysipelatous aspect, vaccinal pustules, very large and grayish white, black crusts all over the body, except the soles of the feet, and on the genital organs; one was covered with red patches similar to measles, another had, the day after the vaccination, large bullæ filled with serum." There was, also, an epidemic of pemphigus, complicating the inoculations. On inquiry into the public health in the neighborhood, he found erysipelas, diphtheritic anginæ, malignant pustule, wounds with sanious bases, and numerous cases of pemphigus. On April 10, 1869, he adds: "I am happy to say that to-day none of the children who were vaccinated May 25th, 1868, bear even a doubtful trace of syphilitic disease, and that none of them had undergone specific treatment.

M. Guerin concludes, on this point, by observing:

1. That vaccinal syphilis, up to this time, fails in the majority of points which would support a belief in such an origin.

2. That experiments instituted to determine the possible inoculation of vaccinal syphilis, are quite contrary to the doctrine of syphilitic vaccination.

3. That among a large number of alleged facts of vaccinal syphilis, most, if not all, belong evidently to another order of pathological influences.

And further along in the discussion, he asserts that the causes which are likely to vitiate vaccine and give it the false appearance of syphilis, are of a nature to exercise their influence equally upon human and animal vaccine. These causes, foreign to the vaccinifer, are either exterior to the subject vaccinated, or inherent in his constitutional state—both more or less susceptible of being determined, prevented, or combated.

I recently addressed a letter to Dr. J. K. Barnes, Surgeon General U. S. Army, asking him if there was any evidence on file in his office which reported the existence of any vaccinal syphilis among the 2,000,000 of soldiers who took part in the late American war. In reply, he very kindly wrote: "That quite a number of papers are on file in this office bearing on the subject of foul ulcers following vaccination, and supposed

by some to be due to the contamination of the matter employed with syphilitic virus. I have made a preliminary examination of these papers, and have arrived at the conclusion that their general tenor is directly opposed to this supposition."

Prof. J. Jones, of New Orleans, has published a paper on "Spurious Vaccination," based on materials furnished by the Confederate Army. His conclusions agree with those of the Surgeon General, in exonerating the vaccine from blame, and referring the foul ulcers which attended vaccination in the army, to the fatigue, exposure, uncleanliness, insufficient and improper diet, etc., incident to a soldier's life, which resulted in a cachetic diathesis.

Wm. Clendenin, M.D., Medical Director of Hospitals, U. S. A., at Nashville, during the late war, and at the present time Health Officer of Cincinnati, has furnished me a report of his views on vaccination. His experience and opportunities for personal inspection of the ulcers, and so-called cases of vaccinal syphilis, which followed vaccination in the U. S. Army, were so great, that his views concerning them will be of value. His conclusions fully accord with those above expressed.

In reply to my inquiry, Dr. Seaton, in his letter of April 9th, writes: "I am not aware of any fresh cases of alleged introduction of syphilis by vaccination with humanized lymph, since I published my book, but curiously enough there has been discussion lately in France on some cases of syphilis in children, who had been vaccinated with animal lymph. Of course, the syphilis was a latent syphilis, and the vaccination could have nothing to do with it, except, perhaps, to hasten its evolution; but the cases are instructive, and point, in my opinion, to the explanation of all the alleged cases of vaccino-syphilitic inoculation with humanized lymph, except those in which there was downright carelessness and mixture or substitution of viruses."

This opinion of Dr. Seaton is supported by M. Guerin's terse assertion in the Academy, that "Vaccination is not a port of entry for syphilis, but a means of exit;" and by the *Medico-Chirurgical Review*, January, 1869, which says, "it is not the vaccination, but the parentage which is at fault."

I will close this section of my report by quoting the declaration of Dr. Anstie, in the *Practitioner*, of November, 1869: "*Vaccinal syphilis is a bugbear and a phantom.*"

ARTICLE XXIX.

TRAUMATIC, IRIDEREMIA, AND APHAKIA.

By C. HIXSON, M.D., formerly Prof. of Ophthamology in the Kansas City College of Physicians and Surgeons.

The infrequency of cases like the following is a sufficient apology for its publication. Mr. B., of Kansas, is a sawyer by occupation, and sometime in January last, was struck by a small chip hurled with great velocity from the saw, which entered the centre of the right eye, making an incision of more than three-fourths of the diameter of the cornea. Being remote from any professional assistance, his wife did the surgery in the case. Cold applications were made at intervals for several days, when what he describes as strings of pus was found in the wound, and which his wife pulled away with considerable pain on the part of the patient. The eye gradually improved, and to-day I find the following interesting condition of affairs: There is, extending in a vertical line, embracing about three-fourths of the diameter of the cornea, a firm, opaque cicatrix. There is not a vestige of the iris to be seen in the injured eye. The iris of the left eye is a very light grey, and contrasted with the deep, dark, blackness of the injured eye, is remarkable. The only thing seen by lateral illumination or by the Ophthalmoscope is a few opaque filaments of the capsule. There is complete aphakia. Without a glass, the patient has only quantative perception of light—everything is blurred and indistinct. With a cataract glass and through a stenopaic hole, he can read No. 4 Sneller at 18 inches. He is very much annoyed by the inability to focus the rays of light equally in the two eyes, and I hope by a stenopaic catacact glass to be able to do away with this difficultuy to a considerable extent, if not entirely.

Proceedings of Societies.

CHICAGO MEDICAL SOCIETY.

August 1st, 1870.—Dr. Fred. Hotz exhibited a specimen of urinary calculus, of very unusual size, removed by him in May last. The stone was oval in shape, perfectly smooth, 4 inches long by $2\frac{1}{2}$ in breadth, about 2 inches in thickness, and weighed $12\frac{1}{2}$ ounces. A section through the center showed the calculus to be composed of several distinct layers of an almost pure white material, mostly the phosphates. A small cavity in the center was nearly filled by an oval tuberculated nucleus, about an inch in diameter.

The patient, from whom the calculus was removed, was sixty years of age, and in rather feeble health. Symptoms indicating the existence of calculi had existed for many years.

When first called to see the case in April last, the Doctor found him suffering from acute pain in the bladder, difficulty in passing water, etc. It was found impossible to pass a catheter or sound. At the earnest solicitation of the patient an operation was undertaken, although but little encouragement of a favorable result could be given.

The ordinary lateral operation was begun, but on cutting into the bladder, it was found impossible to withdraw the calculus through the opening. An attempt was then made to crush the stone, but with all the force that could be applied, even to the flattening of the teeth of the forceps, they were unable to fracture it. The operation was then converted into the bilateral, and, after considerable manipulation and some injury to the tissue, the calculus was finally extracted.

The patient died two days after the operation. The autopsy revealed considerable thickening of the walls of the bladder and constriction of its passage from the chronic inflammation. Both ureters and the pelves of the kidneys were considerably dilated. There was also a considerable abscess in one kidney.

Dr. Miller exhibited a portion of the skull of a woman, sup-

posed to be a German emigrant, who was found lying on the track of the Northwestern Railway, a short distance from the city limits, having been run over by a train. From certain cuts on the head, it was suspected that she had been murdered and the body thrown across the rails to be mangled by the passing trains, in order to hide the crime. The *post mortem* examination revealed several clean deep cuts in the base of the skull, passing through into the brain, narrower at their base than at their entrance, and appearing as if made with a hatchet or some similar instrument. It was impossible that such injuries could have been made by the cars. The jury in the case returned a verdict of death at the hands of some person or persons unknown. The body was never identified, nor any clue to the murderer(s) obtained. In answer to a query raised, the Doctor stated that it was impossible that the cuts could have been made after death, as in that case the edges of the wounds would not have been everted.

Dr. M. also presented a specimen of aortic aneurism, near the heart, showing the thickened pericardium and the rent in the aneurismal sac, which was the cause of death.

Dr. R. G. Bogue exhibited a specimen of fluid taken from an hepatic cyst. It was of a dark red color, and contained considerable sediment. The fluid had not been examined chemically or microscopically.

Dr. T. D. Fitch related a case of cancer of the omentum and other abdominal organs, in a middle-aged woman. A tumor began in the left iliac region, which rapidly increased until it had reached nearly across the abdomen, and had caused an enormous distention of this cavity. The pressure of the tumor caused much disturbance of the functions of the body, especially pain in the stomach, difficulty in digestion, frequent vomiting, etc. It was regarded as not improbable that it might be an ovarian tumor, but it was finally diagnosed as malignant, although there could not be traced any cancerous disease in the family. The patient died five months from the beginning of the disease. At the *post mortem* examination, half a gallon of thick, red fluid escaped from the peritoneal cavity. The omen-

tum, the liver, and nearly all the abdominal organs, were infiltrated with cancerous matter. The omentum was nearly destroyed—"eaten away." The uterus was antiflexed at an acute angle, a fact which accounts for the impossibility of passing a sound into that organ during life. Nearly the whole of the peritonæum was thickly studded with little tumors, which, although never examined with the microscope, were undoubtedly of a malignant nature. The cancerous matter was nowhere circumscribed, but consisted of a diffuse involement of all the abdominal organs.

WABASH VALLEY ÆSCULAPIAN SOCIETY.

MATTOON, ILL., *May 25, 1870.*

Æsculapian Society of the Wabash Valley met pursuant to adjournment; Dr. M. W. Wilcox, President.

The following members were present: Drs. Albin, Dening, Chambers, Johnson, Miller, Massie, St. Clair, Ringland, Swafford, Mosley, Steele, Pearman, Todd, Washburn, Willien, Henry. The minutes of the last meeting, at Paris, Ill., were read and approved.

Dr. Willien's report on surgery was first in order.

This was a paper occupying nearly an hour in its reading, consisting of a statement of cases, their treatment, together with many practical and original ideas. He made mention of the singular phenomenon not usually observed, concerning the cessation of growth in the finger or toe nails in cases of fracture of bones of the arms or legs, which fact it would be well to remember. A case of irreducible strangulated crural hernia of right side, kelotomy, and recovery: Mrs. P——, resident of Effingham, Ill., aged 39 years, mother of five children; hernia of ten years' standing. Was suddenly taken sick in July, 1869, with all the symptoms of strangulated hernia. All ordinary remedies failing, Drs. St. Clair, Lecrone, and he (the operator) decided to operate as the only hope of saving life. The symptons were fast becoming more aggravated, vomiting of stercoraceous matter, etc., etc. *7th instant*—Patient chloro-

formed; tumor size of l rge hen's egg, much inflamed and very painful to the touch. The operation was conducted after the usual manner. Very little blood was lost; hernia reduced. Wound closed with silk thread. Ice applied in after-dressing; opium internally. Suppuration of wound on third day; a simple dressing then of carbolized glycerine and simple cerate. The bowels were moved freely on the seventh by a dose of castor oil. Patient made an immediate recovery, and a radical cure was the result.

The next case was that of peri-uterine abscess; supposed cause, perimetritis. Operation and recovery.

Mrs. H——, aged 27 years, mother of two children. Patient, in act of lifting a tub, was seized with severe pain in back, followed by excessive uterine hemorrhage, with temporary loss of consciousness. She was four months gone in pregnancy, and miscarriage followed.

The pain in back and sacro-lumbar region continued with frequent stranguary, and tenesmus of bowels. The preceding physician in this case, (an irregular), had pronounced the cause of all her trouble a uterine polypus. When the patient desired its removal, he put her under the influence of chloroform and made traction on the neck of the womb; but, wearied out, he declared it would have to be removed by "escoratics." This course of treatment, fortunately, was never attempted.

Dr. Willien saw her first in February, 1869, after an illness of three years. Symptoms: face pale with expressions of anxiety, pulse weak and frequent; chilling; at night a cold and abundant perspiration; pain in abdomen and lower bowels; constipation.

On examination, a tumor size of large infant's head, extending above the pubis about three inches, was painful, fluctuating, and slightly movable. Per vaginal examination: cervex inclined to right, its posterior labia enlarged os partly dilated, and granulated, from which a sero-sanguinous fluid issued of a very offensive character. The uterus was lower in the vagina than normal; distinct fluctuation in cul-de-sac. Per rectum examination: tumor easily defined and fluctuation evident.

Question. Was it an intra-uterine disease, involving its nominal structure, a malignant growth, or a peri-uterine abscess?

Answer. The introduction of the sound showed a declination to the left. The neck was dilated by tent sponge, and uterus found exempt from disease or tumor. He then concluded it to be an accumulation of fluid between the peritoneal covering and tissues proper. Was it serous, blood, or pus? The history of the case led him to think it pus.

March 30.—Patient anæsthetized. A small trocar was plunged through the vaginal cul-de-sac, and a rush of white, inodorous pus confirmed his diagnosis. An injection of carbolic acid and rain water was then used, narcotic poultices were applied over the abdomen, and opium internally, to relieve pain. Sulph. quinia and other tonics were freely administered. On fourth day, tumor began to enlarge again, although the discharge continued per vaginum. On examination per rectum, the pressure ruptured the membranes, and a discharge of pus followed the finger. She now began to improve, with a good appetite, and, after a few months, is again about her ordinary domestic work.

Third case was that of fracture of the lower jaw in two places, by kick of horse; one spicula of bone protruding through into the mouth. The interesting part about this case was the application of a new splint, (invented by himself), of vulcanized rubber, made to fit the jaw inside and externally. After six weeks the splints were removed with entire satisfaction.

Dr. Willien, at the close of his report, presented the Society with two new splints for the fore-arm and the leg. These, for their simplicity and cheapness, as well as their real merits, were generally approved. Any physician living near a tinner could have them readily made. A trough-like arrangement, with an expansion for the hand and a perforated septum for the arm or leg to rest on, through which all the superabundant water and effete materials could pass, thence off at one end. A complete dressing could be effected without any disturbance of the limb.

After the reading of this paper, it was discussed by Drs. Swafford, Massie, Chambers, and others.

Dr. Swafford thought the excessive use of cold water by a large part of the profession, and as recommended by some Medical Authors, not a very commendable treatment, many times producing bad results.

Dr. Massie's report on Midwifery was next in order. This document consisted of the Doctor's own views, and how he would conduct labor. It gave evidence of much experience and thought, and was practical and original, written for the benefit of the young men in the profession, and abounded in ideas not to be found in the books. The part referring to ergot elicited debate from some few members, advocates *pro* and *con*, as heretofore.

The report was well received, and requested to be published.

The semi-annual address was delivered by Dr. Swafford, of New Goshen, Ind., and was listened to attentively. It covered much of the history of the profession, from 450 years B. C., down to the merest charlatan or Indian Doctor of the present, showing, with reason, why impostors did and the regular profession did not advertise.

SECOND DAY.—MAY 26.

Society met according to adjournment, at 8 o'clock A.M.

Dr. Chambers, of Charleston, Ill., reported a case:

Mr. C., farmer, age 40 years, June 1st, 1869, was driving into his barn on a load of door-frames; was caught between the load and roof; was carried from his barn to his house, (a short distance). Found on examination, that the last dorsal vertebra was dislocated, one of the ribs on left side fractured, and lower extremities paralyzed. Patient was chloroformed, and extension made, and the luxation reduced. One or two of the processes of the vertebra above were thought to be fractured. A compress with bands about the waist secured the vertebra in place. Morphine was given to relieve the pain. In a few days bromide potass. was commenced and continued in large doses. Urine had to be drawn by catheter. In six weeks strychnia was given, but, not agreeing with the patient, nux vomica was

substituted. This remedy seemed to fail, and an electric battery was used for some months.

May 21, 1870. Saw Mr. C. to-day; was sitting up in a rocking-chair, in which position he had been some four hours. He weighed, when he received his injury, 160 pounds, was reduced in November last to 100 pounds; now weighs 125 pounds. He presents a healthy appearance, appetite sufficient, tongue clean, skin soft and warm to his toes; can now make partial flexion and extension of the left leg, and slight motion with the right. Sensibility to the knee almost perfect; legs are proportionately smaller than his body; is nearly always admonished when it is necessary to urinate, yet cannot restrain it from passing; bowels rather torpid, thinks he can tell when he is going to have a passage, yet, not always; has had, during the past winter, partial erections of the penis; pulse, in sitting posture 80, recumbent 78.

The case, at this date, is about *statu quo*. It is interesting, from the fact of its being the third on record.

The doctor promised to keep watch over the case, and report to the Society in the fall, as to its progress or condition. He then reported a case of gastrodynia, as cured by sub. nit. bismuth.

A card was then read before the Society, issued by one of its former members:

"Confidential Instructions given to the Married. Dr. Davis has the only reliable and harmless preventive (thereby interdicting the crime of abortion). He also treats successfully, all forms of private diseases, Gonorrhœa, Syphilis, Leucorrhœa, Painful Menstruation, Stricture, Impotence, Seminal Weakness, etc. Call at the —, Room No. —, or address Box 451, Des Moines, Iowa, with 2 three-cent stamps for reply." (Written on card), "$25.00."

He was expelled by a unanimous vote of the Society.

The following gentlemen were assigned as essayists at the Fall meeting:

Dr. A. J. Miller, Paris, Ill., on Baths.

Dr. J. B. Hedges, Clinton, Ind., Obscure Malarial Diseases.

Dr. J. F. Price, Charleston, Ill., Improvements in Therapeutic Agents.

Dr. B. F. Swafford, New Goshen, Ind., Wounds of the Knee-Joint.

Dr. H. H. Deming, Mattoon, Ill., Substitutes for Quinine.

Dr. H. F. Harper, Marion, Ind., Best manner of Building, with a view to Ventillation.

Dr. I. H. Apperson, Filmore, Ill., The Sources of the Gastric Juice.

Dr. J. R. Hinkle, Sullivan, Ind., Spinal Irritation.

The President then appointed the following gentlemen Chairmen of standing committees:

Dr. G. W. Albin, Neoga, Ill., Surgery.

Dr. L. L. Todd, Paris, Ill., Practical Medicine.

Dr. Chas. S. Johnson, New Goshen, Ind., Epidemics.

Dr. E. B. Cannon, Tuscola, Ill., Midwifery.

Dr. R. L. Walstous, Paris, Ill., Indigenous Botany.

Committee of Arrangements for next meeting — Drs. Apperson, Cannon, and Brinton.

Tuscola, Ill., was determined upon as the place for the Fall meeting.

Dr. J. M. Hinkle, of Mattoon, brought up the question of paralysis, in connection with the building of the piers in the Mississippi river, at St. Louis. The workmen having to work in a compressed atmosphere, (under a pressure of about three atmospheres,) were, after a time, (some in a few hours, others after a day or a week) paralyzed. This led him to conclude there was yet a frequent cause for this disease, not fully recognized by the profession. He thought if the external pressure exerted by the atmosphere was a cause of paralysis, as it seemed to be clearly in the above cases, then probably it acted conjointly with other common or recognized causes in every-day life, and his remedy would be to send such cases to more elevated localities, mountainous countries.

The time was so far gone that the debate on this question was cut short, and the Society adjourned to meet the fourth Wednesday in October, 1870.

Dr. M. W. WILCOX, *President.*

Wm. E. Henry, *Secretary.*

WISCONSIN STATE MEDICAL SOCIETY.

The Medical Society of the State of Wisconsin held its regular annual session in Milwaukee, on the 15th, 16th, and 17th days of June, its President, Dr. S. Marks, of Milwaukee, presiding.

After an opening prayer, by the Rev. G. M. Stone, the Society was addressed by Dr. J. K. Bartlett, Chairman of the Committee of Arrangements, who welcomed it to this city, in which it has not before held a session for twenty years.

Pending the report of the Board of Censors, in reference to admission of new members, a discussion was opened by Dr. Carley, who reported a case of what he thought to be apoplexy, following delivery, in which bleeding and purgatives were heroically administered, and recovery rapid.

Dr. Van Norstrand inquired if paralysis followed in the case, and receiving a negative reply, said that, in his opinion, the case was one of puerpural convusions, as did also Drs. Meacher, Meachum, and Brewster, who participated in the discussion, sustaining the treatment of Dr. Carley, though differing from him in the diagnosis.

The Censors made report recommending for membership the names of a number of physicians examined by them, and upon this and subsequent reports of this Board, there were received into the Society forty-nine new members.

Reports of Committees being called for, Dr. Mason, from the Committee on Surgery, read an interesting essay on the uses of Carbolic Acid.

Dr. Meacher, from the same Committee, read an essay on Colles's Fracture, advocating the use of an inter-osseous compress.

Dr. C. Linde presented an essay, being "An Historical Outline of Traumatic Surgery."

Dr. Davis read the history of a case of lithotomy in a child of 5 years, resulting in the death of the child in 40 hours, from peritonitis.

Dr. Armstrong read the history of a case of breech presenta-

tion at full time, in which the head of the child had actually been torn from the body by the attendants, the woman having previously had several living children. Two *doctors* had been in attendance, but had made no effort to deliver the woman with instruments, and had finally abandoned the case. The head alone was left in the pelvic cavity when the Doctor arrived, and by him was delivered with forceps and craniotomy. The woman died in 24 hours, apparently "from shock of the system alone."

Dr. Barrett read a paper detailing a case of obstetrics, in which a woman was delivered of an eight-month's still-born child, and in a few hours of another fœtus of the size of two and a-half or three months. The woman had met with a fall in the early period of pregnancy, to which the Doctor attributed the death of the smaller fœtus.

Dr. Mason reported a case, in which, after a natural labor, he was in a few hours recalled to the case, and found that a five-month's fœtus, with placenta attached, had been expelled, but "in a mummified condition."

Dr. Coon reported a case in which a living and healthy child was born, three months after the mother had been delivered of another child also healthy and living.

Dr. Palmer mentioned a case in which a seven-month's fœtus was found to be entirely destitute of any trace of osseous matter.

Brief histories of other anomalous cases were given by Drs. Carley, Davis, and others.

Dr. Ferris presented and read two papers, the first being the History of a Case of Enlarged Prostrate; and the second being an Essay on Trismus Nascentium, in which disease, the Doctor thinks "the proper pathological condition is undue pressure upon the medulla oblongata and the nerves originating from it, produced by displacement of the cranial bones, especially the occipital."

The proceedings of the Society, thus synoptically presented, occupied its attention during the sessions of Wednesday evening and Thursday morning, and in the afternoon of that day

the Society, with invited guests, were, by the liberal provisions of the Committee of Arrangements, entertained with an excursion on Lake Michigan.

Upon assembling again in the evening, the Annual Address of the President was delivered, it being a review of the position occupied by the profession at the present time, as compared with its position in past ages, and urging, in view of our superior advantages, correspondingly higher attainments—claiming for Medical Societies an exalted position in this work, and for our own Society, urging it to be "not only our duty to see that applicants for admission have the required qualifications at the time of admission, but that they continue to keep pace with the advancement of the profession," and that "if we would triumph over quackery we should elevate ourselves so much above the mere pretender in medicine, that the most casual observer cannot fail to mark well the distinction between us."

Dr. Witter introduced a resolution looking to the establishment of a Medical Department of the State University, which, after discussion, was laid on the table.

Dr. Cody, from the Committee on New Remedies, read an essay on the Hydrate of Chloral, praising it as a sedative and hypnotic, and as a safe and valuable medicine in all cases where an anodyne is required—ranks it next to opium, and as, in many cases, preferable to that drug—has found it "especially beneficial in a large class of nervous and delicate females, afflicted with the class of diseases known as neuroses—has given from five to fifteen grains as an anodyne, and from thirty to sixty grains as a hypnotic—has not in any case seen unpleasant effects from its use. The paper elicited considerable discussion, exhibiting a variety of experience with the drug, mainly corroborative of that of Dr. Cody.

Dr. Palmer, having taken the medicine, found it to relieve pain and produce sleep, but the sleep was of a disturbed character, and was followed by great languor and by irritability of the stomach; had obtained no satisfactory results from its use.

Dr. Page's experience was similar to that of Dr. Palmer.

Dr. Cody also read a paper prepared by Dr. Cory, giving the history of a case of pleuro-pneumonia, in which there had been expectorated a perfect fibrinous cast of a bronchial tube (which was presented with the paper), following which recovery was rapid.

Dr. Cory presented another paper, giving the history of a case of insanity, treated with bromide of potassium with good results.

Dr. Waterhouse presented a paper on the "Management of Disease," the special point of which was the position of patients with reference to the law of gravitation—"an appeal for better management and less drugs."

Dr. Barrett gave the history of a case of hydrocele successfully treated by injection of chloroform and compound tincture of iodine.

Dr. Stoddard presented an essay on the "Pathology of Pulmonary Consumption," following Lebert "in denying the existence of specific tuberculosis," maintaining that "tubercles may be produced by ordinary irritants under certain conditions, and these conditions being understood will give us a fair field to combat their morbid tendencies."

Dr. Treat, Chairman of a Committee appointed at a previous meeting, to secure the passage of a law legalizing dissections, reported that the Committee had secured the passage of such a law, which may be found among the General Laws of the State, entitled "An Act to Legalize Dissection, Approved February 9th, 1868."

A communication was received from Dr. D. C. Davies, regretting his inability to attend, and suggesting the appointment of a Committee on Gynæcology, to report at the next meeting, which suggestion was adopted, and Dr. Davis was appointed on such Committee.

Society adjourned until Friday morning, when the first business in order was the election of officers for the ensuing year; the election resulted as follows:—

President—Dr. H. P. Strong, of Beloit.

1st Vice-President—Dr. Darius Mason, of Prairie du Chien.

2nd Vice-President—Dr. A. H. Van Norstrand, of Madison.

Secretary—Dr. J. T. Reeve, of Appleton.

Corresponding Secretary—Dr. R. D. McArthur, of Milwaukee.

Treasurer—Dr. J. T. Reeve, of Appleton.

Drs. J. K. Bartlett, H. Van Duzen, and L. J. Barrows were re-elected censors.

Dr. Van Duzen reported an extremely interesting case, in which, on making a *post mortem* examination, there was found no trace whatever of the left lung, its cavity being occupied by a number of small, irregularly-shaped pieces of bone, which were exhibited. The other lung was healthy, and there was no trace of disease elsewhere.

Dr. Dalton, who also knew of the case, stated that the man had been a sailor, and that many years before his death, he had sustained a fall, injuring that side.

Dr. Bartlett presented an essay on "Intra-Uterine Medication," which, in consideration of the lateness of the hour, was referred to the Committee on Publication, as was also a paper by Dr. Armstrong on the "Constitutionality of Disease," and one by Dr. Brewster on "Criminal Abortion."

Dr. Bartlett offered a resolution, which was adopted, empowering the Board of Censors to meet three days prior to the meeting of the Society, for the examination of applicants for membership.

Resolutions of thanks to the Officers of the Society, to the Committee of Arrangements, to the physicians and citizens of Milwaukee, and to the press, were then adopted.

Dr. Manley presented the history of a case of opium eating, in which persistence in the use of the drug had not produced a necessity for an increase of its dose, and in which a cure was effected by the use of quinine, and gradually diminishing doses of tr. opii.

Dr. Johnson read an essay on Torpid Bowels, condemning the common use of purgatives, and particularly commending the use of Graham bread.

The following named gentlemen were elected as delegates to the next meeting of the National Medical Association:

Drs. Waterhouse, Marks, H. Van Duzen, Wight, J. K. Bartlett, Reynolds, Strong, Reeve, D. C. Davies, Whiting, Wolcott, Treat, J. Johnson, Van Norstrand, Mason, Russell, Favelli, Burroughs, Fuller, and Dickson.

The Standing Committees for the ensuing year were announced as follows:

Arrangements—Drs. Marks, Johnson, and Fuller.

Surgery—Drs. Marks, Mason, and Dalton.

Practice—Drs. Whiting, Page, and Manley.

Obstetrics—Drs. J. K. Bartlett, Ferris, and Armstrong.

Pathology—Drs. Van Norstrand, Thorndike, and Stoddard.

New Remedies—Drs. Faville, Russell, and Waterhouse.

Medical Education—Drs. Wight and Whiting.

Diseases of Eye—Dr. E. W. Bartlett.

On motion, the Secretary was directed to furnish a synopsis of the proceedings of this Convention for publication in the *Medical and Surgical Reporter*, Philadelphia, and in the *Chicago Medical Examiner*.

Society adjourned to meet in Milwaukee on the third Wednesday of June, A.D. 1871. J. T. R.

Abridgments from Our Exchanges.

Compound Dislocation of the Ankle and Other Injuries: Illustrating the Antiseptic System of Treatment.

By Joseph Lister, F.R.S.

This is a paper of considerable length, contributed to the July number of the *Lancet;* it is not merely a discussion of a single case, but contains likewise the opinions of the author on certain questions pertaining to inflammation, and hence we abridge the article for our columns.

A laborer, 33 years of age, was severely injured at 6 A.M., by a railway train. When he was seen at 8.30 A.M., he was suffering considerably from shock, and, on examination, it was found that his left foot was much displaced inwards, the end of the fibula protruding through a vertical wound in the integument, two or three

inches in length, the end of the protruding part being comminuted. The tip of the malleolus had been broken off, and remained attached to the external lateral ligament. The internal malleolus was of course fractured, as a necessary condition of such a displacement of the foot.

Such an injury is a most formidable one; formerly, recoveries from it were exceptional, and surgeons came to regard amputation as the best treatment for it, in most cases.

For the purpose of facilitating the return of the protruded end of the bone, a portion of it was nipped off with cutting pliers, and, with the same object, the lower end of the rent in the skin was slightly enlarged. But, to all intents and purposes, the dislocation was simply reduced.

Watery solution of carbolic acid, as strong as it could be made (1 to 20), was thrown into the joint with a syringe, the edges of the skin being held together to prevent its escape and cause it to penetrate to all parts of the wound; this was further promoted by manipulation of the parts, while the fluid was still in the interior. There was a time when it would have been thought dangerous to introduce so irritating a liquid into the ankle-joint; but the transient irritation of the antiseptic is nothing compared with the far more acrid products of putrefaction. A lotion of half the strength (1 to 40) is sufficient to destroy the putrefaction of organisms in a wound just made, and made by the surgeon himself. But with an injury received sometime before the patient is seen, and in a rude way, where foreign materials with clots of blood may be lying in parts of the wound, it is proper to use as strong a solution as water will produce.

The liquid introduced having been squeezed out, a second injection was made for greater security; the skin in the vicinity was washed with the solution to destroy organisms adhering to it or to the hairs, and an external dressing was applied. Lac plaster, containing carbolic acid, was wrapped in two layers around the limb, extending well up the leg, and embracing the heel and instep, the foot being held in good position. A cloth to absorb the serum, which would be discharged from beneath the margins of the plaster, was then bandaged on, and a splint applied to the inner aspect of the limb.

On examining the head there were found four scalp wounds, varying from two to five inches in length, three of them exposing the bone. The region was shaved and thoroughly washed with the strong antiseptic lotion; the wounds were treated exactly like that of the ankle, except that their edges were approximated by antiseptic sutures. These were made by steeping silk for a time in a mixture of melted bee's-wax and a tenth part of carbolic acid, and being drawn through a dry cloth when removed.

The patient also had a compound fracture of the right olecranon. This was treated in the same manner as the wound of the ankle.

The dressings were changed entirely on the day after the accident. In doing this great care is requisite. The antiseptic first injected having been absorbed, the extravasated blood and dead tissue are as susceptible of putrefaction as though no such treatment had been pursued; if a single drop of serum is pressed out and then regurgitates into the interior, after being exposed even for a second to the septic influence of the air, putrefaction would be pretty certain to occur.

To guard against this risk, for the first few days, a syringe should be used, the nozzle of which is inserted beneath the margin of the lac plaster, and, as this is raised, a stream of a weak solution of carbolic acid is thrown upon the wound, until a cloth wet with the same solution can be placed over it.

After the first day, before applying the lac plaster, the wound was covered with a material to protect it from the irritating and stimulating influence of the carbolic acid in the antiseptic stratum. After the first dressing, the object which I aim at is to have the material in contact with the exposed tissue approximate as closely as possible to the bland and neutral character of the living textures. The injured tissues do not need to be *stimulated*, they need to be let alone; nature will then take care of them.

Now, of all injurious external agencies the worst is putrefaction; this we endeavor to preclude. But a substance that will destroy the life of putrefactive organisms, cannot fail to be abnormally stimulating to the exposed tissues; these must be protected from its action.

Our "protective," then, should be a material, unstimulating in itself, and impervious to carbolic acid; it must be insoluble in the discharges, and so supple that it will apply itself readily to the part. The best is made of cotton cloth, coated on one side with caoutchouc, gilded on the caoutchouc side, and then covered with a film of india-rubber applied in solution.

A very good protective is made of oiled silk, which should be brushed over with a mixture of one part dextrine, two of powdered starch, and sixteen parts of cold, watery solution of carbolic acid (1 to 20). This coating enables its surface, unlike the simple oiled silk, to become uniformly moistened, this being necessary to be done —with an antiseptic solution—when it is applied.

On the day after the accident, the cloths, plaster, and splint were found soaked with bloody discharge. On the second day, when the dressings were again changed, the cloths presented only a stain, corresponding with a few drachms of tinged serum, and the original coagulum was on a level with the surrounding skin. The dressings were then allowed to remain two days; at this time the discharge had caused only a serous stain of a few drops. This state of things resulted not merely from the antiseptic treatment, but it showed that the protective answered well its purpose. Had the antiseptic been acting directly on the wound the discharge

would have been much greater, and we should have had a hollow sore, with commencing suppuration.

From the remarks of some, it would be imagined that "I regard putrefaction as the sole cause of suppuration; whereas, my treatment of abscess depends upon the fact that pus, in the unopened cavity, being the result of inflammatory stimulus, without atmospheric influence, is free from putrefaction; so it is needless to apply the antiseptic to the interior, all that is requisite being to provide exit for the discharge, while guarding against the entrance of putrefactive fermentation."

Carbolic acid freely applied to a wound, instead of preventing suppuration, will itself, being a stimulating substance, induce suppuration, by long continued action on the tissues.

Facts observed in the antiseptic system of treatment have thrown great light on the causes of suppuration; it may be well to state here the "conclusions to which I have been led."

The tissues of the living body are liable to a temporary impairment or suspension of vital energy as the result of extreme irritation; this condition is the essence of *intense* inflammation, and may be induced in two ways, *viz.:* either by the direct operation of a noxious agent on the tissues, or indirectly through the medium of the nervous system. The same law appears to hold with regard to the causes of the exaggerated but feeble cell-development resulting from the continued action of some abnormal stimulus in a less intense form, giving rise to the various phenomena of inflammatory hypertrophy, granulation, and suppuration; the pus cells being the extreme of excess of quantity, and impairment of quality in the products of abnormally excited nutrition. Thus there are two groups of causes of suppuration: first, those that operate through the nervous system, or the inflammatory class, of which abscess is a typical example; and, secondly, noxious agents or stimuli acting directly on tissues. The latter group are stimulating salts or chemical stimuli. These are best studied in the behavior of a healing ulcer under different kinds of treatment. Small granulating sores sometimes heal by scabbing; when the surface is thus protected by a crust from external influences, there is no further effusion of pus or serum. This proves that granulations have no inherent tendency to form pus, but only do it when stimulated. Two granulating surfaces placed in contact with each other will coalesce; this would be impossible if they continued to suppurate; and their juxtaposition could oppose no obstacle to the pus formation, if they had any innate disposition to it. But their contact excludes the operation of external agents upon them, they cease to discharge, and unite. The wall of an abscess is similar in nature to the granulations of a sore, and is often regarded as essentially "pyogenic," but if the abscess be opened antiseptically, the pyogenic membrane, relieved from the inflammatory stimulus which the tension of the pus induced, and being protected from the access of the stimulus of

putrefaction, is left free from all disturbance, and never forms another drop of pus.

So far from granulations having any inherent tendency to form pus corpuscles, they are ever disposed to develop into higher forms as soon as left free from preternatural excitement. In the healing ulcer, the granulations covered by the newly-formed pellicle of epidermis at the edge of the sore, are as truly granulations as when exposed, but they are no sooner protected from external stimulus than they proceed to develop into the more and more perfect fibrous tissue of the cicatrix.

When carbolic acid or chloride of zinc is applied, properly diluted, to a healthy granulating sore, no redness of the surrounding skin, or other inflammatory disturbance is produced; yet the granulations exposed to the liquid are excited to superficial suppuration, while those protected from it by the pellicle of epidermis form no pus. Here, then, we have absence of inflammatory stimulus, but the chemical stimulus urges the granulation to develop pus

If the sore is treated with water dressings, the serum first exuded putrefies in the lint, and the products being acrid salts stimulate the granulations to the formation of pus. Thus, in their effect on a granulating sore, an antiseptic and a putrid dressing are alike; both excite suppuration by stimulating the granulations.

But, in their operation on a recent wound, there is this difference between them, that the antiseptic stimulates only the surface to which it is applied, and the discharge which it induces dilutes it and renders it less stimulating; but putrefaction being a fermentation, the ferment spreads to all the recesses of the wound, wherever blood, serum, or dead matter afford nidus and pabulum for its development.

Antiseptics, then, though they produce suppuration when applied to a recent wound, are superficial in their action and trivial, compared with the effect of putrefaction.

Speaking of the condition of *time* in suppuration, he says that it is only when tissue has been gradually degraded by abnormal stimulation to a state of granulation that pus is formed. To accomplish this in a recent wound in healthy tissue requires three or four days when subjected to the action of putrefying material.

The same holds with regard to the inflammatory stimulus; it does not induce suppuration in a day, but requires time.

The case under consideration progressed rapidly and favorably, all the wounds healing with the formation of hardly a particle of pus. The oiled silk protective having been used in two, and sometimes three layers, the results approached closely those which are theoretically attainable. Some of the smaller portions of the slough were entirely removed by absorption, and their place filled by vascular new tissue. Five weeks after the accident, the process of organization and vascularization [in the ankle] had made great progress, and the large mass of dead tissue, though superficially sit-

uated, being protected from the disturbing influences of external agency, was undergoing the same kind of change as is experienced by parts deprived of vitality in the sub cutaneous injury of simple fracture. At this period, the original clot was still to be seen on a level with the surrounding skin, but diminished by contraction and cicatrization. An open sore healing by cicatrization, without either suppuration or granulation, is something new in the history of surgery, though just what we might expect from our knowledge of healing by scabbing.

Book Notices.

The Physiology of Man; Designed to represent the existing state of Physiological Science, as applied to the functions of the Human Body, By Austin Flint, Jr., M.D., Professor of Physiology and Microscopy, in the Bellevue Hospital Medical College, New York; Fellow of the New York Academy of Medicine; Microscopist to Bellevue Hospital. New York: D. Appleton & Co., 90, 92, and 94 Grand Street. 1870. Price, $4.50.

This is the third volume of Dr. Flint's valuable work on the Physiology of Man; and, like the two preceding volumes, it is published on excellent type and paper. It contains about 530 pages, and embraces the consideration of the functions of Secretion; Excretion; Ductless Glands; Nutrition; Animal Heat; Movements; Voice and Speech.

This volume, like the preceding ones, is complete in itself, although constituting part of a general work on Physiology. The author has taken great care to present a full review of what is known concerning every subject embraced in his work. It is, consequently, a very valuable work, both for the student and practitioner.

The Journal of the Gynæcological Society of Boston. A Monthly Journal, devoted to the advancement of the knowledge of the Diseases of Women. Edited by Winslow Lewis, M.D., Horatio R. Storer, M.D., and Geo. H. Bixly, M.D., and published by James Campbell, 18 Tremont St., Boston. Pp. 387. Price, $2.50.

We have received from the publisher, the two first volumes of this Journal, elegantly bound, and lettered.

While we differ widely from the editors of the Gynæcological Journal, in regard to some questions of propriety, we give them credit for commendable efficiency in the conduct of their Journal, and freely commend it to our readers as containing a large amount of valuable matter in relation to the diseases peculiar to females. The two nicely bound volumes before us can be had of the publisher for $2.50 each.

Naval Hygiene. By Joseph Wilson, Surgeon United States Navy; with an appendix: Moving wounded men on Shipboard, by Albert C. Gorgas, Surgeon United States Navy. Reported to the Bureau of Medicine and Surgery. Published by order of the Navy Department. Washington, D.C. 1870.

We have received a neatly printed volume with the above title, from the Naval Medical Bureau, at Washington. It is an interesting work, and of special value to all who have anything to do with the shipping or naval interests.

Shaw's Medical and Surgical Case Book. E. P. Stevens & Co., Publishers, Chicago. 1870.

This is a substantially bound blank book, conveniently ruled and headed, for recording cases, either medical or surgical. There is also a department for inserting photographic plates, representing diseased conditions. It is one of the most convenient books for the simple purpose of keeping a record of cases that we have seen.

The Bromides: Their Physiological Effects and Therapeutic Uses. By Z. McElroy, M.D., Zanesville, Ohio.

This is a pamphlet of 26 pages, reprinted from the *New York Medical Journal*, of July, 1870. The author, during the past few years, has written many essays, or rather articles for different medical periodicals, all designed to sustain certain theories regarding what has been termed a *physical basis of life.* Following out the general train of thought prominently enunciated

by Mr. Huxley, Dr. McElroy endeavors to trace all the phenomena of living beings in health and disease, to two processes, namely, nutrition or construction, and disintegration or waste. From the physical changes in matter involved in these processes, result all the forces and phenomena of life, mental and physical; and, furthermore, these changes are themselves the result of the operation of the same forces and laws that control inorganic matter. Like Mr. Huxley, he endeavors to discard the existence of any special *vital force* or property, and yet he only substitutes another term "*form force*," and gives to it very nearly the same attributes. Assuming that all the phenomena of living beings arise from the two processes, *nutrition* and disintegration, Dr. McElroy naturally infers that all remedial agents produce their effects by either promoting or retarding these processes.

The specific action of the Bromides, he regards as hastening the process of disintegration, and, consequently, applicable to the treatment of such cases only, as are accompanied by the retention of surplus material in one or more of the tissues of the body. He denies that they possess any direct hypnotic effect or power. We do not think the views of Dr. McElroy are sustained either by experiments or correct clinical observation. But we have neither time not space to pursue the subject further at present.

Editorial.

Explanation.—The article in this number of the *Examiner*, on Vaccinal Syphilis, by W. B. Davis, M.D., of Cincinnati, appears to have been furnished to several periodicals simultaneously. We would have placed it under the head of *selected* articles, had we known what journal it should be credited to.

The Woman's Hospital Medical College, of Chicago.—An institution, with this title, has been organized in this city, for the special purpose of educating *females* for the practice of medicine.

It has a full faculty, composed of members of the profession, in good standing; and, we have reason to believe, prepared to give full courses of instruction in all the departments of medical science.

It is connected with the Woman's Hospital, 402 State Street, which has been in operation several years. The regular lecture term will commence on the first Tuesday in October next. We do not advise women to study or practice medicine as a profession; but, to such as are determined to do so, without our advice, we say, they will find the Woman's Hospital Medical College, of Chicago, worthy of their patronage.

For further information, see advertisement; or, apply to Prof. T. D. Fitch, Secretary of the Faculty.

Chicago Medical College, Medical Department of Northwestern University.—The new building, for this institution, is now complete. It is, in all respects, one of the best medical college buildings in the country, and its completion, in immediate connection with the Mercy Hospital, and the Davis Free Dispensary, gives to the Faculty all the means and facilities for as comprehensive a system of medical education as can be devised. The College, Hospital, and Dispensary are all in the same block; all new, and arranged with special reference to the highest comfort and convenience of the sick; together with the most perfect facilities for Clinical instruction; and all free from municipal, political, or any other outside influence or control. Every practical department, including Practical Medicine, Surgery, Obstetrics and Gyneæcology, Ophthalmology, etc., is provided with the facilities for Clinical instruction, in direct connection with the didactic courses in the College. The new building also contains an extensive museum and laboratory for instruction in Analytical and Practical Chemistry.

A GOOD CHANCE FOR A GOOD PHYSICIAN.

I wish to dispose of my house and two lots in the village of Two Rivers, with a good village and country practice. Said lots are conveniently and pleasantly located, and have a good house, barn, and other improvements. For particulars and reasons for wishing to sell, address C. C. CROCKER, M.D., Two Rivers, Manitowoc County, Wis.

Mortality for the Month of July, 1870.

Accident, burned in building	1	Cyanosis	2	Malformation, general	1
" burned by petroleum	1	Cynanche tonsillaris	1	Mouth-canker sore	1
" crushed	1	Cystitis chronic	1	Measles	3
" explosion of gas generator	1	"	1	" & complications	1
" narcotics, overdose of	1	Development deficient	1	Meningitis	11
" by team	1	Debility, general	8	" cerebro-spinal	2
" drowned	15	Delirium Tremens	2	" tubercular	4
" by fall	2	Diarrhœa	85	Old age	12
" railroad	3	" chronic	6	" and dropsy	1
" scalded	1	" & complications	7	Paralysis	4
Abortion	1	Diphtheria	9	" & inflammation of glands of the neck	1
Anus imperforate	1	Dropsy & apoplexy	1	Peritonitis	4
Anasarca	1	Dysentery	24	Paraplegia	1
Apthæ	1	" acute	2	Pleurisy	2
Apoplexy	12	Dyspepsia	1	Pneumonia	5
Asthma	1	Entero-colitis	10	" & complications	1
Atelectasis pulmonum	1	" hepatitis	1	" typhoid	2
Aneurism of Aorta rupture of	1	Enteritis	24	Pyæmia	1
Births, premature	21	Erysipelas	4	Quinsy	1
Births still	55	Exhaustion from amputation of leg	1	Rheumatism	1
Bowels, congestion	1	Fever, congestive	3	" inflammatory	1
Brain, congestion	16	" intermittent	1	Scrofula	3
" covering, inflammation of	1	" puerperal,	9	Small-Pox	2
" disease of	1	" remittent	1	Spinal Cord, softening	1
" inflammation	17	" scarlet	19	Stomach, ulceration	1
" effusion on	2	" " complications	1	Stomatitis	2
" paralysis of	1	" " malignant	1	" gangrenous	1
" softening	1	" typhoid	14	Sunstroke	21
Bronchitis	1	Gastritis	3	" & complications	5
" chronic	1	" chronic	1	Suicide by hanging	1
" capillary	2	Gastro-Enteritis	2	" " poison	1
Cancer of Breast	1	Hæmatemesis	1	Syphilis, hereditary	1
" abdomen	1	Hemorrhage umbilical	1	" tertiary	1
" kidneys	1	Heart, congestion	1	"	1
" paroted glands	1	" disease	4	Tabes mesenterica	40
" stomach	7	" organic disease	1	Teething	15
" " uterus	1	" fatty degenerat'n	1	" & complications	14
Childbirth	1	" valvular disease	4	Tetanus	1
Chest malformation	1	Hemiplegia	1	" traumaticus	2
Cholera Infantum	354	Hydrocephalus	14	Tumor encephaloid, hemorrhage of	1
" morbus	10	" acute	7	Urine suppression of	1
Consumption	41	Intussusception	1	Varioloid	2
Convulsions	99	Inanition	16	Uterus, hemorrhage of	1
" puerperal	1	Intemperance	2	Vitality deficient	2
Croup	5	" and apoplexy	1	Whooping-cough	9
" diphtheretic	1	Jaundice	1	" & complications	4
" membranous	2	Kidneys, Bright's disease	1	Total	1118
		Liver, cirrhosis	1		
		" inflammation	1		
		Lungs, congestion	3		
		" emphysema	1		

COMPARISON.

Deaths in July, 1870, 1118 | Deaths in July, 1869, 815 | Increase, 303
Deaths in June, 1870, 720 | Increase, 398

AGES.

Under 1	578	10 to 20	23	70 to 80	14
1 to 2	186	20 to 30	50	80 to 90	5
2 to 3	35	30 to 40	73		3
3 to 4	20	40 to 50	45		
4 to 5	5	50 to 60	25	Total,	1118
5 to 10	28	60 to 70	28		

Males, 594	Females, 524	Total, 1118
Single, 931	Married 187	Total, 1118
White, 1112	Colored, 6	Total, 1118

NATIVITY.

Atlantic Ocean	3	England	16	Poland	2
Bohemia	8	France	3	Russia	2
Canada	9	Germany	103	Scotland,	5
Chicago, Native	171	Holland	5	Sweden	11
Chicago, Foreign	594	Ireland	78	Unknown	7
U. S., other parts	75	Isle of Man	1		
Denmark	1	Norway	24	Total,	1118

MORTALITY BY WARDS FOR THE MONTH.

Wards.	Mortality.	Wards.	Mortality.
1	6	20	31
2	31	Accidents	27
3	34	County Hospital	7
4	22	Convent Good Shepherd	1
5	24	Canal Boat Olive Branch	1
6	78	Home for Friendless	9
7	72	Hospital Alexian Brothers	2
8	99	Immigrants	2
9	103	Jewish Hospital	3
10	24	Lake Hospital	1
11	50	Mariner's Hospital	1
12	33	Mercy Hospital	3
13	18	Protestant Orphan Asylum	4
14	18	St. Luke's Hospital	1
15	118	St. Joseph Orphan Asylum	11
16	59	Soldiers' Home	1
17	90	Suicide	2
18	65		
19	37	Total,	1118

THE SICK.—There are in the United States 1,360,000 "constantly sick," or twenty-four to each physician.

In the United States Army, one medical officer is provided to 333 men in regiments.

PHYSICIAN WANTED

For an excellent Country Practice, in a good locality.

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For particulars apply to— **S. A. McWILLIAMS,**
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RELIABLE VACCINE MATTER CAN BE HAD OF
DR. S. A. McWILLIAMS,
166 STATE STREET, CHICAGO.

THE

CHICAGO MEDICAL EXAMINER.

N. S. DAVIS, M.D., Editor.

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Original Contributions.

ARTICLE XXX.

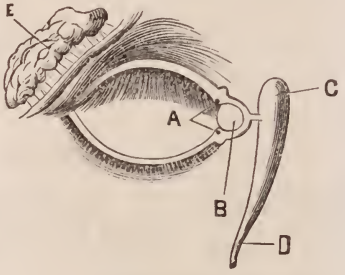
OLD AND NEW METHODS OF TREATING LACHRYMAL OBSTRUCTIONS.

By H. W. BOYD, M.D., Prof. of Anatomy, Chicago Medical College.

The lachrymal apparatus consists of the lachrymal gland, which is the source of the lachrymal fluid, and the canaliculi, lachrymal sac, and nasal duct, or the passages which conduct the tears from the eye to the nose. The lachrymal gland is situated in the lachrymal fossa, a depression in the orbital plate of the frontal bone; its ducts are from six to twelve in number, each about the size of a hair. They open into the sac of the conjunctiva, at the outer upper-third of the orbit. The canaliculi are canals, about three or four lines in length, and less than one-third of a line in calibre. It consists of a fine, pale, hard, mucous membrane, containing a few mucous glands and pavement epithelium. They begin near the inner extremity of each lid, at the small prominence near the caruncle. The commencement of a canaliculus is called the punctum. From this point they pass along, near the margin of the lid, the lower one passing upwards and inwards, and the upper one downwards and inwards, until they unite and open by one orifice into the lachrymal sac. Their course, in health, is free, opening into the sac without valves.

The tears consist of "pure water, mixed with a small amount of salt and albumen."

The constant motion of the lids in winking causes the tears to be equally distributed over the convexity of the globe, and thus serves to lubricate the anterior surface of the organ, as well as to wash away foreign substances, such as particles of dust, from the cornea; and, owing to the peculiar arrangement of the parts, the tears naturally flow towards the inner canthus, and are forced by the lids through the contraction of the orbicularis muscle, through the puncta into the canaliculi, and on into the lachrymal sac, thence through the nasal duct into the nose.



(Fig. 1.)*

Now, it is evident, that any obstruction of the canaliculi, or nasal duct, must interfere with the passage of the tears, and, as they are continually being secreted by the lachrymal gland, they will collect in the sac of the conjunctiva, and, finding no outlet, will fall over the lid and run down the cheek, or, by collecting in the eye, will very greatly interfere with vision. Besides this watery condition of the eye, there will be dryness of the nostril, from the absence of the tears. These obstructions may exist either in the canaliculi or nasal duct; they are caused by deposits of lymph, cicatrices, inflammation, redundancy of mucous membrane, etc. Many methods have been devised, at different times, for the cure of these obstructions, and, even to-day, the plans of treatment differ very materially with different surgeons. In inflammation of the lachrymal sac, it was the practice of the older surgeons to lay open the entire sac by an incision through the external integuments, or to destroy it with the hot iron or escharotics; but this practice is now almost obsolete, having been superseded by improved methods of treatment; and it is a question with the most learned ophthalmologists whether it is ever necessary or advisable, in the

* Lachrymal Apparatus.—A. Punctua lachrymalia. B. Canaliculi. C. Lachrymal sac. D. Nasal duct. E. Lachrymal gland, showing its ducts.

present light of science, to lay open the lachrymal sac by external incision, or to destroy it by escharotics, as was practiced a few years since, either in inflammation of the sac or stricture of the nasal duct. It is believed that we are now acquainted with methods of treatment, to which the most obstinate cases of stricture of the nasal duct, or chronic inflammation of the sac must, in the course of time, succumb. In abscess of the lachrymal sac, the pus should be evacuated through the canaliculi, either by slight pressure upon the sac with the thumb or finger, or, if it cannot be accomplished in this way, a small-grooved probe should be introduced through the punctum and canaliculus into the sac, and, by slight pressure, the pus will escape through the groove in the probe; or, if this does not give it vent with sufficient freedom, then the punctum may be slit up, for a short distance, either with a pair of fine scissors, or it may be slit up in the small-grooved probe with a small, sharp knife;—as a rule, it will be sufficient simply to introduce the probe or small-grooved director. Strictures of the nasal duct were formerly treated by means of styles made of silver or lead, and introduced into the duct by means of an external opening through the integument.

These styles were introduced by means of a slender, double-edged knife, with a groove on one side of the blade. This knife was introduced through the external integument, near the inner canthus of the lids, into the opening of the nasal duct. The style is then introduced and forced through the opening, guided by the groove in the blade of the knife, until the lower extremity of the style rests upon the floor of the nostril; the knife is then withdrawn, and the style, which has a head or hook at its upper extremity, is permitted to remain, and the tears would escape through the duct, by the side of the style. A method, devised by Dupeytren, was to introduce a silver tube, and thus procure an outlet for the tears. This tube was designed to be permanent; an external incision was made, the tube arranged in position to conduct the tears into the nose, and the opening allowed to heal up. Cases are reported, in which these tubes remained in position for years, but, as a rule, they soon become displaced. They would either slip up or

down, or get out of position in some way, or would cause such irritation and pain as to necessitate their removal. A modification of this plan was made use of by Mr. Walthen, an English surgeon, in which the design was to prevent displacement of the tube. This plan consisted in having a tube with a neck and nail-head, having a small apperture at the upper extremity of the tube, through which the tears passed, and was to rest through a permanent fistula in the side of the sac. The tube was held in position by its head, which was always visible near the inner angle of eye.

(Fig. 2.)*

These plans, although extensively practiced, a few years since, have given place to more improved methods. Scarpa, an Italian, and Beer, a German surgeon, employed catgut for dilating strictures of the lachrymal duct; it was introduced through a fistulous opening in the side of the sac, and the end allowed to rest on the floor of the nostril, while the other end was fastened to the face by adhesive plaster. The portion in the duct, by absorbing the fluids of the sac, which would cause it to expand; each day the portion in the duct would be drawn through and cut off, a new piece taking the place of the old one. This method, like the preceeding one, is now obsolete.

In the early part of the last century, Anel, a surgeon of Turin, practiced dilatation of the puncta and canaliculi with a small probe, not larger than a bristle. He also devised a syringe, with a fine-pointed nozzle, to inject fluids through the puncta and canaliculi, into the lachrymal sac, and, by the force thus employed, to remove any obstruction of the nasal duct, or treat any disease of the lachrymal sac. This method of treatment, although practiced for a long time, was not satisfactory. There were many cases of stricture of the nasal duct, which the force from the syringe was insufficient to remove, and the fluid injected through the lower punctum would escape through the upper one. The objection to the probe, devised by Anel, was that it was too small and delicate to be of much service, and is,

* Dupeytren's and Walthen's tubes.

by some, regarded as dangerous to use. In certain cases, the syringe may be conveniently employed to inject the sac.

About the year 1820, Mr. Travers, a London surgeon, advocated the practice of dilating the natural passage by probes of silver-wire. This was first suggested to Mr. Travers by the strong analogy existing between the nasal duct and the urethra, and seeing the principle of dilatation practiced so successfully in strictures of the urethra. He says: "This applies to treatment of the urethra, as well as to the ductus nasalis, and it is only in cases of abscess, in which the distended and inflamed integuments threaten to give way by ulceration, that in either case it becomes necessary to deviate from it." The probes used by Mr. Travers were about five inches long, varying in size, flattened at one end, and slightly bulbous at the point. "The probe is introduced with perfect facility (by one who has an accurate knowledge of the parts) from either the upper or lower puncta lachrymalia, into the corresponding nostril, when no obstruction is offered to its passage; when the puncta is constricted, it is readily entered and dilated by a common pin, and, upon withdrawing it, by one of the smaller probes." He continues: "I have seldom met with a stricture so firm as not to yield to the full-sized probe. I am fully aware of the objection that immediately presents itself, *viz.:* that a passage so obtained is not permanent; but, by several repetitions of the operation, it is often rendered so." If, after a few days' trial, the treatment was not effectual in removing the obstruction, he would then introduce a nail-headed style, shaped to the course of the canal. This may remain in the duct for a period of twenty-four hours, after which the sac is syringed with tepid water by means of Anel's syringe. The part is then permitted to rest for twenty-four hours, after which this operation is repeated, and this plan is persisted in until the obstruction is completely overcome.

The plan devised by Mr. Travers has been practiced, with slight modifications, by an eminent surgeon of Philadelphia, Dr. Isaac Hayes, who gives the following strong testimony of its merits: "We have now employed this mode of treating

obstructions of the lachrymal passages for more than twenty years, in a very large number of cases, with the most gratifying success. We are persuaded that it is the most rational and least painful mode of treatment, effecting a permanent cure, and leaving no unsightly scar, as in the case where the sac is opened, and a style or tube inserted."

(Fig. 3.)*

The probes used by Dr. Hayes differ slightly from those devised by Mr. Travers. They were not bulbous at the extremity, but small and rounded, and in size from No. 17 down to No. 21, wire guage.

The probe is always introduced through the lower punctum. When the punctum and duct are occluded, Dr. Hayes commences treatment by using Anel's probe, which is longer than his own, and is more conveniently manipulated. After this he commences with a No. 21, or the smallest size of his own probes, and gradually increases up to the largest, No. 17. The ner of inserting this probe is described by Dr. Hayes as follows: "The lower lid is to be drawn tense, with the left thumb applied at the outer angle of the eye, and the patient directed to look upwards. The lower punctum is thus exposed, and placed in the best position for the introduction of the probe. This instrument is then to be introduced perpendicularly to the edge of the lower lid, into the punctum, and, by a little pressure, pushed as far as the commencement of the lachrymal canal. The direction is then to be changed to a nearly horizontal position, so as to correspond to the direction of the lachrymal canal. The point being a little upwards and backwards, by gentle pressure in this direction, the probe may be pushed in, until its point passes into the sac and presses against the bone. The direction of the probe is then once more to be changed nearly to a perpendicular, and the probe to be gently pushed

* Dr. Hayes' probes for dilating the lachrymal canal, *via* the lower puncta.

down, until the stricture is passed, and the probe rests upon the floor of the nostril. No violence should be used, if it is, the membrane will be torn and injury inflicted." But if it cannot be introduced with very moderate pressure, he advises to abandon the attempt for a few days, until the irritation subsides, and then attempt it again. When you have succeeded in once introducing the probe, it is allowed to remain for "one, two, three, or even twelve hours," if it is found not to produce much irritation. He says it is rarely necessary or advisable to let it remain for a longer period than this. When the probe is withdrawn, the canal is washed out with cold water, by means of Anel's syringe. "After an interval of four, five, or eight days, to allow the tenderness to disappear, the same probe, or, if practicable, one a size larger, may be introduced. This process is to be repeated at intervals, the size of the probe being increased whenever it is practicable, until the passage has been dilated to its full extent. When this has been accomplished, it may be well to introduce the large probe a few times, at distant intervals, and inject cold water through the punctum, by means of Anel's syringe."

In the year 1851, Mr. Bowman, an English surgeon, published an account of a new operation for Epiphora, when there was eversion of the punctum. The operation consisted in slitting up the punctum and canaliculus as far as the caruncle. This operation proved so successful that it soon came into general favor. And in 1855, the same operation of slitting up the punctum and canaliculus, was practiced by Mr. Bowman, as a means of assisting in exploring the lachrymal canal, and removing obstructions from any portion of the passages. This method is now in more general use than any other, for the treatment of lachrymal obstructions. It consists in slitting up one canaliculus, generally the lower one, as far as the caruncle, and repeatedly probing the nasal duct with variously sized silver probes, of regularly increasing diameters. The probes consist of six sizes, from the smallest to the 1-20th of an inch. These probes are made of silver, or of hard rubber, which has the advantage of being more flexible than the silver, and is preferred by some

on this account. They are arranged so that two sizes may be blended in one probe, one end of one size, and the opposite extremity of the next size. The punctum and canaliculus are slit open by means of fine scissors, or a small grooved director and sharp knife. There is in use, also, a small probe-pointed knife with a curved blade, which is well adapted for the purpose. The probe point of the knife is introduced into the punctum, and pushed on into the canaliculus, and the handle of the knife raised from a horizontal to a nearly perpendicular position, and as the handle is raised, the blade slits up the punctum and as much of the canaliculus as may be required, even into the sac, if necessary, which is seldom the case.

(Fig. 4.)*

The scissors spoken of, for this purpose, are also exceedingly convenient, from the fact that they enable us to regulate and limit the length of the incision. They consist of a pair of fine straight scissors, with one blade projected about one-twelfth of an inch, into a fine probe point, and the other blade not quite so long, and terminating obtusely. These scissors were devised by Dr. John Green, a distinguished ophthalmologist of St. Louis, Missouri.

After the slitting of the caruncle has been accomplished, which is neither difficult nor painful, a probe should be introduced into the canal, and gently pushed forwards, and should it come in contact with a stricture, or an obstruction of some kind, by proper care in manipulating, with one of the small sized probes, the obstruction may be passed, after which a size larger probe may be used, and so continuing to increase the size of the probe, until the canal will admit the largest sized probe throughout its entire length.

According to Mr. Bowman, in about one out of every four

* Bowman's probes for dilating, with division of lower punctum.

cases, a stricture or obstruction of some kind exists in the canaliculi, its most usual location being near the sac, but occasionally near the middle of the canaliculus. Should it exist in either of these localities, one of the smallest sized probes should be introduced, and, by care and skill, the obstruction may be passed; if it should prove to be obstinate, then slight force may be used; if, after thorough trial, it should turn out to be imperious, then it may be perforated by Mr. Bowman's guarded knife, or his canula lancet, instruments devised by Mr. Bowman expressly for this purpose. When the probe passes with perfect freedom through the canaliculus, then the larger sized probes may be passed down, and the nasal duct explored; and, if a stricture exists in the course of the sac, or nasal duct, it may be treated by the same method of gradually increasing the sizes of the probes. The canaliculus being a much smaller canal than the nasal duct, it is believed by some to be impossible to dilate a stricture of the nasal duct, through the canaliculi; so they originated the plan of slitting the canaliculus up throughout its entire extent to where it opens into the sac, thus converting it into a groove. By this means the surgeon is enabled to pass the largest sized probes or styles without spending much time, or exercising a great deal of skill. This operation frequently involves the total obliteration of the canal, and hence, as Dr. Green has said, it constitutes a mutilation, and should not be resorted to except for good and sufficient reasons. When this is done, the upper canaliculus is the one usually chosen for the operation; and it is fortunate that such is the case, as the upper one can more easily be sacrificed than the lower one.

Dr. E. Williams, of Cincinnati, treats obstructions of the nasal duct by means of styles, of large graduated sizes, introduced through the upper canaliculus, by means of a free incision. The largest of these styles are one-eighth of an inch in diameter, and are worn for a period of from six weeks to three

(Fig. 5.)*

* Dr. Williams' styles for dilating *via* the upper canaliculus, with free incision of punctum and canaliculus.

months. They are taken out every day, and the sac injected with a solution of sulphate of copper or zinc.

My friend, Dr. John Green, of St. Louis, Missouri, to whom I am in debt for much that is in this paper, has proposed a modification of Dr. Williams' treatment, by substituting the softest, most pliable lead wire, for the rigid silver styles of Dr. Williams. Dr. Green claims that the lead, being soft and pliable, adapts itself to the anatomical peculiarities of the parts: the nasal duct not being perfectly straight, but irregularly curved, or at least variable and uncertain in direction, and, hence, it is often difficult to pass a large and stiff probe; or, if passed entirely through the canal to the floor of the nostril, the pain it causes from unequal pressure being too rigid to adapt itself to all the irregularities, soon causes its removal. But the leaden style fulfills all the indications not accomplished by the silver ones:

First, it is easily introduced, and readily adapts itself to all the irregularities with comparatively little pain, and hence can be worn for a much longer period without removal. The smaller size can be more readily exchanged for the larger—than is the case with the silver ones, thus shortening the period of treatment. Experience has also shown that less dilatation is required by this method than by that in which the silver styles are used, and the injection of medicated fluids into the sac may also be dispensed with. In the use of the silver styles, the lachrymal passage is changed to conform to the style, while in the use of the leaden ones, the style adapts itself to the shape of the canal; and, frequently, when they are withdrawn, they are curved, showing the shape and course of the duct, varying in different cases, but retaining a uniformity in the various stages of treatment of the same case. At first, Dr. Green experienced difficulty in introducing the smallest sizes of these leaden styles, on account of their extreme flexibility. This led him to devise the plan of making them tubular, and having a a steel or silver stilet to fit into them. They are then rendered rigid, which facilitates their introduction—which, when accomplished, the stilet is withdrawn; and the style, remaining in

place, soon adapts itself to the shape of the canal. Dr. Green uses seven sizes of these styles, numbering from No. 14 to No. 20, of the wire guage. He claims that in certain obstinate cases, where Mr. Bowman's method is not exactly suitable, because no permanent result follows the successive introduction of the probe, the stricture returns as soon as the probe is withdrawn; in cases of this class, a large sized leaden style, worn for a few days, will generally give a free passage, or, in other words, the effect on the stricture is more permanent than by the silver probes. It also accomplishes the end in view without interfering with the normal condition of the parts, much more perfectly, and in quicker time, than by the silver styles of Dr. Williams.

We have now alluded to all the principal methods of treating lachrymal obstructions. The old method of laying open the sac, is now almost obsolete, as is also the method of puncturing the integuments, and introducing a silver tube, or nail-headed style, practiced by Dupeytren, Lubbock, and Mr. Ware. But the method of treatment by dilatation, is the one which holds ascendency over all others. Each of its modifications is possessed by its own peculiar merits, and each one has advantages over the others, in certain classes of cases; and no one of them should be practiced to the exclusion of the others. But the principal of continued dilatation through the natural passage, as first practiced by Dr. Travers, and Dr. Hayes, and subsequently modified by Dr. Bowman, and others, is the best plan with which we are acquainted, for treating lachrymal obstruction, and disease of the lachrymal sac. We should be prepared to use any one of its modifications, whenever a case requiring either of these modifications presents itself. The plan which will apply to the largest number of cases, and leave them in the condition nearest resembling nature when the treatment is terminated, should be the one adopted, all things being equal. The plan of Mr. Bowman is probably more in general use than all the others put together, because it fulfills the indications in the greatest number of cases, and, all things considered, leaves the parts in a more normal condition than any other. But

here are exceptional cases, in which simply slitting up the punctum, and probing according to his plan, will not suffice. The stricture returns almost as soon as the probe is withdrawn. In such cases a style, worn for several days, will be found beneficial; and we are inclined strongly to the opinion that the flexible, leaden style, as used by Dr. Green, is the one best calculated to do good in these cases. We are now using the leaden styles, as recommended by him, and in the few cases in which we have thus far made use of them, our success has been most gratifying. We have never yet used the styles recommended by Dr. Williams, for the reason that we have always practiced Bowman's method of slitting up the lower punctum, and dilating the passages with the series of probes recommended by him. Then, too, we were taught in our pupilage to believe that slitting up the canaliculi into the sac, was taking too free liberties with the parts, and was dangerous to the functions of the canaliculi, and should be practiced only in exceptional cases, and also that the use of very large styles, similar to the largest of his, was dangerous to the membranous lining of the nasal duct, from the long continued pressure of the mucous membrane against the firm, bony walls of the duct. For the same reason, we have never made use of the probes made from *laminaria digitata*, used for any obstinate strictures, the principle of which is similar to that of a sponge tent in the cervix uteri: it absorbs the fluids and swells up, causing rapid dilitation; and more, when this is removed from the passage, there is danger of its tearing, or, at least, loosening the mucous membrane from the bone which forms the wall of the nasal duct.

As regards probing the superior or inferior canaliculi, it matters but little which one is selected. A very good plan is to practice on both, as was the custom of Mr. Travers; first one, and then the other.

We have been accustomed to using the lower one, but can see no reason why it should be selected in preference to the upper, except as a matter of convenience, or where the inferior one is impassable from adhesions. It is a little more difficult to get at the superior one, especially where the eye is not very promi-

nent; neither is it easy to stretch the canaliculus in the proper direction, in order to slit it, as with the lower one.

In conclusion, we would simply remark that, all things considered, the system of Mr. Bowman presents advantages over all others. The interference of the natural conditions of the parts is so slight, and the results on the whole so perfect, and the pain and inconvenience of the patient so trivial, and the time occupied in the treatment probably as short as in any other, that by far the large majority of cases may be easily and permanently cured.

ARTICLE XXXI.

REPORT ON OTOLOGY.

By SAMUEL J. JONES, A.M., M.D., Chairman.

The advance made in the last quarter of a century in the different branches of the profession of medicine, has given increased interest to those engaged in its pursuit.

To achieve this result, Science in general, has done much. New and improved instruments for diagnosis assisted in making visible, conditions which reasoning could only render probable, before the discovery of such apparatus.

The Stethoscope enabled the physician to explore a region, though hidden from view, with results almost as accurate as vision could have revealed. The Ophthalmoscope cleared away the mist that veiled diseases of the interior of the eye. The Laryngoscope, the Rhinoscope, and the Otoscope, have achieved results eminently satisfactory. The Endoscope, the Sphygmagraph, and others have aided in physical research. Although undue enthusiasm, may have claimed for these, a degree of importance that experience scarcely justifies, yet they have their use, and it should be the aim of the profession, instead of condemning them for their insufficiency, to endeavor by honest effort, to widen the sphere of their usefulness, and to so improve them as to increase the amount of good they are capable of achieving.

The advantages which resulted from the discovery of the Ophthalmoscope are recognized by all. What before, had been mysterious, began to become clear. A new interest attached to the study of diseases of the eye. The number of workers in, and of works on Ophthalmology rapidly multiplied, and many a grateful sufferer to-day, returns reverent thanks for such result.

One other department of our profession, though of recognized importance, remained devoid of interest—neglected—and the afflicted continued to suffer. Diseases of the ear continued to be prominent as among the opprobria of our profession. They were shunned by its members as difficult and uninteresting in diagnosis. The results of treatment were unsatisfactory in a marked degree. The unfortunate sufferer from these affections must either be left to nature to repair the injury, as best she might, or he must fall a prey to the empiric. An occasional spasmodic effort was made, at intervals running through years, to do something to confine aural practice to the medical profession, but the results were scarcely such as had been hoped for. It would not be interesting—scarcely profitable—to dwell upon the feeble efforts made in this direction, before the time of Sir William Wilde, of Dublin, whose work resulted in more accurate diagnosis, and with whom we may fairly estimate the beginning of aural surgery. With this as the initiative, Mr. Toynbee, of London, engaged in the same pursuit, with such energy and such a degree of success, as made a new era in that department of Surgery. His investigations, and the results of them, went far towards establishing accurate diagnosis; narrowed the field of doubt and uncertainty that had enveloped those diseases, and excited an interest in them that is every day becoming more extended. His success made him conspicuous, and amidst his career of usefulness, he fell a victim of accident. His work so nobly begun, has been pursued by Hinton, Yearsley, Anderson, and others of his countrymen, who were enabled to profit by his work, and to add to the result. Great Britain did not remain the only country that sought to widen this field of study. Germany, with that patient research which char-

acterizes all her labors, betook herself anew to the work, and humanity may congratulate itself on the results attained by such men as Politzer, of Vienna, Gruber, of Vienna, Voltolini, of Breslau, Swartze, of Halle, Trötsch, of Würzburg, and Lucae, of Berlin — men whose lives are devoted to the investigation of these diseases, and their remedy.

Operative surgery of the eye seems to offer so much more attraction for the surgeon, that more who prefer special practice elect that; or, where diseases of the Eye and Ear are treated by the same person, diseases of the Ear, perhaps, receive a minor share of attention. This may be said of France and America, where Ophthalmology and Otology are more united than in either Great Britain or Germany.

In Paris, Löewenberg, in Boston, Clarke, in New York, Agnew, Roosa, Noyes, and Hackley, and in Chicago, Holmes and Hildreth have perhaps done as much as any others in their respective countries, to give aural surgery its proper degree of attention, and to show how much good may be done by faithful work in an unattractive and neglected, but important field of labor.

Having given a cursory view of workers in Otology, mention of a few of their most important works would seem to be proper; such as Sir William Wilde's "Aural Surgery;" "Diseases of the Ear," by Toynbee, with later edition of it by Hinton; "Trötsch on the Ear," translated by Roosa, and Politzer on the "Membrana Tympani," translated by Mathewson and Newton. Besides these works, there are published in Germany, the "Archiv für Ohrenheilkunde," a quarterly journal, and "Monadschrift für Ohrenheilkunde," a monthly, both devoted exclusively to diseases of the Ear; and in New York and Carlsruhe, simultaneously, the Archives of Ophthalmology and Otology, a quarterly, which constitutes the bulk of the authentic literature of that department at the present day.

In this connection it may be stated that two Otological Societies, one in the United States, and the other in Germany, have been organized, to foster the science of Otology, which hold annual meetings.

And now as to the practical result of this work, the inquiry is quite pertinent, as to what has been gained in the treatment of diseases of the Ear. To this, it may confidently be replied, in general terms, much has been done. To be more explicit, however, it can be said that the progress made in diagnosis has been eminently satisfactory. One of the most conspicuous instances in which this is shown, is in that class of diseases formerly designated as nervous deafness, the counterpart of which was once amaurosis, in Ophthalmology. Each being a convenient term, which was to embrace all that we did not understand regarding impaired hearing. That one prominent symptom of aural diseases, tinnitus aurium, which was supposed to be in so many of the cases a primary affection, is now known to be in many instances, owing to diminution or closure of the eustachian tubes, whereby the air in the middle ear becomes rarified, and the greater pressure from the more dense air upon the exterior of the membrana tympani, presses it in, upon the ossicles, and by modifying the undulations of sound produces the confusion of it known as tinnitus.

Another important fact ascertained is, that simple rupture of the membrani tympani does not mean total and permanent destruction of the drum, as was supposed by many, even members of the profession; for it is now known that such ruptures, in nearly all cases, unite readily, in the same manner as an ordinary incised wound. Hence the drum may often be punctured by the Surgeon with advantage, during severe inflammation of the middle ear, as in cases of scarlatina, where too often from want of familiarity with this fact, and from omission to watch properly the effect upon the ear, during the progress of that disease, hearing is greatly impaired in many instances, if not lost. Life itself, may even be saved by timely puncture of the drum and evacuation of fluid accumulation resulting from acute inflammation, in the cavity of the middle ear; otherwise the thin plate of bone dividing it from the brain may yield, from pressure, before suppuration shall have sufficiently destroyed the drum to allow free exit, and thus afford relief.

The supplying of artificial membrani tympani, in case of per-

manent loss of the natural one, is a valuable step in reducing the disadvantages resulting from the absence of that important portion of the accoustic apparatus, and often adds astonishingly to the ability of the sufferer to hear again, in addition to giving more or less complete protection from external influences, to a cavity, that, in its normal condition, does not communicate exteriorly with the atmosphere.

Another of the gratifying results of successful treatment of impaired hearing is in the improvement which is manifested in those cases of dulness of intellect, which are often an accompaniment of diminished hearing power, and apparently a consequence of it.

Ottorrhœa, which is mainly but a consequence of some preceding structural change, instead of a primary disease, has so often baffled surgeons in their attempts to control it, as to have justified the grave prognosis so many make. The possible results of the causes of otorrhœa are such that British Life Assurance Companies have deemed affections of the ear, resulting in otorrhœa, as adequate cause to preclude persons so affected from the benefits of assurance. One of the chief difficulties in the treatment of these cases, where the otorrhœa has been accompanied by only partial destruction of the membrana tympani, has, to a great extent, been remedied by Gruber of Vienna, who availed himself of the fact, that, in swallowing, the soft palate closes up against the (posterior part of the) pharynx,—obliterating, for the time, the passage down from the posterior nares to the throat—and the orifices of the Eustachian tubes open. At the instant that these two conditions are produced, he forces fluid, medicated as occasion may require, by means of a syringe, with blunt nozzle, fitting the nostril, through the nose and Eustachian tube into the middle ear. During the performance of this, of course, the other nostril is kept closed by pressure. By this means he is able to remove the accumulations from a larger surface of the middle ear than can be done by forcing water through the external meatus, and the orifice in the membrana tympani, for, by the latter method it is difficult to remove, from the inner aspect of

the membrana tympani, the thickened and hardened secretions, and what is so attached is chiefly forced through the Eustachian into the throat, and is so offensive as to render it desirable to be avoided when possible. If violence be used in doing this, after Gruber's method, dizziness may be produced temporarily. To avoid anything of this kind, a syringe may be used with the Eustachian catheter, and nozzle properly adjusted to attach, thus to throw a direct stream through the Eustachian tube, with sufficient force to detach even moderately firmly adherent matter, and carry it out through the external meatus.

Investigation in this field of study was at first much impeded by the paucity of instruments and appliances suitable for its pursuit. Careful anatomical and physiological observation of the ear, enabled inventive genius to act intelligently, and soon the offspring of necessity became more numerous. Now we have apparatus for the exploration of the hidden mysteries of the ear, but little less efficient in revealing its interior than the opthalmascope is in the eye. Of these, Wild's Aural Speculum, designed to make straight the passage to the outer surface of the membrana tympani, and thus to show more plainly the appearance of that membrane, served its purpose well. Toynbee modified this somewhat, making the speculum conform more nearly, in its different parts, to the conformation of the auditory meatus. Other modifications of the same were made by others, but they have no marked advantage. All these were designed to be used with direct light, either natural or artificial, and to obviate certain inconveniences which attended their use, reflected light, after the manner of the light reflected from the mirror of the opthalmoscope, was introduced, which serves as a convenient mode of examination.

This speculum, used in connection with the mirror, might appropriately be called the simple otoscope.

A more efficient instrument, is what might, with less propriety, be called the compound otoscope, known by various names, as Clarke's, Anderson's, and others — each of whom claims to have added some improvement to it, making what is now a valuable instrument, constructed on much the same principle as

the endoscope—light, either natural or artificial, being concentrated on a mirror, set at such angle as to throw the reflection through a Toynbee's speculum on the membrana tympani, whilst the observer looks through a perforation of the reflecting mirror, and gets a view which is magnified by a convex lens attached exteriorly.

Another instrument of recognized value, though of more limited scope of usefulness, is Siegler's pneumatic speculum, designed "to aid in determining the presence of bands of adhesion in the tympanic cavity, by indicating any spots at which the outward movement of the membrane might be impeded" (Hinton). It is constructed somewhat as a Toynbee's speculum, with its outer and larger orifice closed, and the inner and smaller one fitting tightly into the meatus externus. Through an opening in its side, the air may be exhausted, whilst an observer watches the effect upon the membrane, through the glass with which the outer opening is closed.

Politzer's aural manometer is "adapted especially for physiological demonstration of the vibrations of the air in the middle ear, as well as to show the permeability of the Eustachian tube, the influence of the acts of swallowing and respiration upon the membrana tympani, etc." "It consists of a horse-shoe shaped glass tube, 1½ mm. in calibre, which is fastened in the auditory canal by means of a hard rubber nozzle smeared with grease. A drop of solution of carmine, contained in this aural manometer, indicates, by rising and falling, the variations in the pressure of the air in the auditory canal and cavity of the tympanum."

The aural douche, made as Thudichum's, or more appropriately, Weber's nasal douche, is a good substitute for the ordinary ear syringe, in inflamed and thinned conditions of the membrana tympani, and renders the dangers of perforation, by the stream, less.

Eustachian bougies, made of whalebone, are likewise serviceable in certain conditions of diminution of the calibre of the tube, and will be spoken of in connection with chronic catarrh of the middle ear. Wilde's polypus snare, and the polypus for-

ceps, are not without their use, as well as Voltolini's galvano-caustic in removing foreign growths from the meatus.

Other instruments, devised for local treatment of the ear, embrace Moas' apparatus for generating vapor of muriate of ammonia, to be thrown through a Eustachian catheter into the middle ear, in cases of chronic thickening; Politzer's apparatus for the air-douche, in cases of temporary obstruction of the Eustachian tube; and the compression pump, designed also for the same purpose, but of less practical value, are now, comparatively little used.

Of the instruments for diagnosis mentioned, most were designed for investigation through the external meatus, but there are others of greater or less value, that are used to investigate through the Eustachian tube, either alone or aided by other and supplemental parts. Of these, perhaps the most important is the Eustachian catheter, valuable for its diagnostic utility, and its service in therapeutic use. Toynbee's "Explorer," and the diagnostic tube, separately, and in connection with the Eustachian catheter, are of great service.

The ordinary tuning fork of musicians is used with advantage in diagnosis in those cases where impaired hearing is dependent upon obstructed Eustachian tubes.

Of the many diseases an aural surgeon is called upon to treat in a variable climate, like that of much of the territory of the United States, where there are so great and so sudden changes of temperature, and often great humidity, probably the most frequent, and certainly one very important one, is chronic cataract of the middle ear, with the ordinary results, which are so manifold. The primary effects of acute catarrh are comparatively unimportant, except in so far as a thickened condition results, of the mucous and submucous tissues, and the consequent diminution of the calibre of the Eustachian tube. The acute symptoms attract, as a rule, but little special attention, but gradually, we find the size of the tube narrowing. The secretions of the mucous membrane, lining the whole interior cavity, become thickened, hardened, and changed, as we find in the mucous membrane of the nares. Thus, free exit to

the fauces being precluded, the secretions are retained within the middle ear, in this altered and irritating condition, and thus effect and cause, act and react upon each other, until the whole membrane presents such thickened appearance, that in looking through the auditory meatus, the drum, instead of presenting its natural translucent appearance, appears opaque. The progress to this condition has generally been slow, almost unperceived, so gradual has it been. Perhaps but one ear is effected, or both may be, but the change from a condition of health has been so gradual, that the sufferer first becomes decidedly awakened to the altered condition, by his friends, who discover that he no longer hears so acutely, and, on closer observation, he finds that he is required to fix his attention more closely to discover the nicer distinction of sounds. He now finds that the occassional roaring noise that had been heard at times, occurs more frequently, and is so persistent that the simple act of swallowing will no longer relieve it, and air must be forced in with some energy, as by the Valsalvian method, before he obtains relief. We thus have the condition established, and the first effects apparent. As a consequence of the thickened condition of the drum, resulting from the additional thickness of the mucous membrane, and the adjacent tissues to which the inflammatory process had extended, it yields less readily to the undulations of sound. Perhaps the tube has become so much diminished in calibre, that with difficulty can air be forced in through it. As a consequence, the air in the cavity of the tympanum becomes rarified, and the drum becomes very conconcave inwards, and presses on the ossicles. Their natural free movement upon each other becomes impaired by this pressure, just as do the joints of the fingers, when the hand is encased in splints. The cartilage at the articulation with the fenestra, participates in the structural change which results from constant pressure, and absence of the natural movement. The bones, thus crowded together, become more firm, and form a more rapidly conducting medium for sound, and the supposed synchronous conduction of the sound through them, and through the atmosphere surrounding them, to the auditory nerve, is de-

stroyed, and we may in this way account for the confusion of sounds which are heard under these circumstances, if the theory be accepted, of the two undulations of sound meeting at the apex of the cochlea, in normal condition, and thus neutralizing each other, as in the meeting of opposing waves in water, in the normal condition of the ear.

The results of the chronic inflammatory process, although mainly manifested in the middle ear, are not limited to that space. It is well known, how rapidly inflammation extends along mucous membranes, and hence the lining of the mastoid cells are affected, and the orifices of the Eustachian tubes may participate in the structural change, as the rhinoscope often reveals to be the case.

We have now seen the progress of the disease — some of the structural alteration of the tissues, and some of the natural consequences of those changes. In addition to the destruction of the harmonious action of the whole, as an acoustic apparatus, we have the effect of the mechanical obstruction of bloodvessels, which, in addition to the impaired hearing, adds to the mental obtuseness we often see attending these cases.

Now that we see the physical changes in the auditory apparatus of the patient and realize the disadvantage to him, the most important question to him is, what can we do to remedy them?

In our profession, we all realize the primary importance of obtaining a correct knowledge of the pathological change with which we have to deal. In this respect, I am persuaded that progress has of late been made, which augurs favorably for more satisfactory treatment of these cases. It were desirable that a greater degree of success in treating them were in our command; but because we have in some cases to acknowledge that only experimental trial can determine how much can be done for them, it should not discourage us to such an extent as to preclude effort, in even those cases, for the number is far from small, where marked benefit is given, if only the patient will persevere in treatment. If we do occasionally fail to accomplish our object with certain of our cases, even after patient

effort, it is only the same result which attends many efforts in all the departments of medicine and surgery. Besides, the condition produced by this catarrhal inflammation does not remain stationary. If not treated, it continues to grow worse, and if we fail in our efforts at treatment to do more than stay progress of the disease, that is a result worth all the effort it costs, and is, in a degree, success.

How we must proceed to accomplish the result desired, circumstances must determine. The degree of structural change, the general health of the patient, the age, temperament, and other collateral considerations, will have a modifying influence. As in nasal catarrh, one important point is to get rid of the thick and altered mucous secretion which accumulates, from the orifices of the Eustachian tubes, through to the membrani tympani. For this purpose, I have found the steam atomizer, with a solution of chlorate of potassæ, or muriate of ammoniæ, effective—the salt in connection with warmth and moisture being serviceable. This however, presumes a degree of permeability of the Eustachian tubes. Where the calibre of them is so small as to require some force to propel air into them, by the introduction of the Eustachian catheter, and forcing of air in by means of a rubber inflator, the secretions may be loosened and even forced out by the return current. Politzer, of Vienna, seems to have been the first to have given practical recognition to the fact that in the act of swallowing, the soft palate closes up against the posterior wall of the pharynx, and at the same time the orifices of the Eustachian tubes open. Availing himself of this fact, he gives his patient a mouthful of water, and whilst in the act of swallowing it, an inflator which has been inserted into one nostril—the other being closed at the same time—pressure is made, and pure air is forced into the middle ear through the Eustachian tube, with great advantage in simple and recent cases. In other cases, requiring more decided impression by the forcing of iodized air in, by means of a Buttles' inflator, the requisite degree of stimulation may be obtained. To do this the nozzle of the inflator is inserted into one nostril, the other being closed, and the patient is made to swallow a mouthful

of water at the same time that pressure is made, which will accomplish the desired end; if not, attaching the inflator to a Eustachian catheter and pressing the bulb will nearly always force a stream of the medicated air in. However, if this fail, we have still another resource in the Eustachian bougie, which may be introduced through the Eustachian catheter, having been annointed or not, as occasion may seem to require.

Frequently the application of stimulating or astringent substances to the orifices of the Eustachian tubes, proves of advantage, as auxiliary treatment.

In a large proportion of cases, this local treatment seems to be all that is required. There are others, though, where constitutional impression is required in addition. Not unfrequently we find accompanying this affection a debilitated and relaxed condition of the system, which, of course, indicates tonics along with alteratives. Of these, I prefer the bi-chloride of mercury in diminutive doses, in solution with the compound tincture of cinchonia, though at times I find a stronger tonic than bark desirable.

A careful examination of the properly managed Turkish bath satisfies me that it may be used with advantage in these cases. The free perspiration produced by the air, heated to a high degree, encourages the skin to healthy action, and tends in no small degree to equalization of the circulation. As to the practical value of counter-irritation over the mastoid cells, professional opinion is divided. The weight of testimony seems, however, to favor its use in certain cases; but it seems to require persistent use to be of service, and is apparently most beneficial in those cases where the inflammation has extended to the mastoid cells.

ARTICLE XXXII.

REPORT ON THE USE OF PLASTER-PARIS IN FRACTURES.

By R. G. BOGUE, M.D., Surgeon to Cook County Hospital, Chicago.

Plaster-Paris in Fractures.—The use of Plaster-Paris in surgery is not new. Its use in the treatment of fractures is not entirely of recent date. But its application in the manner recommended in this paper is not generally understood by the profession.

In presenting it to the notice of this Society, I do not bring it up as a new thing; nor as original with myself; but, having had my attention called to it, some three years since, and, having used it somewhat extensively during that time, and finding it to meet the requirements better than any thing else, is my excuse for calling the attention of the members of this Society to its use. Perhaps some use it already; if so, it needs no recommendation to them;—others may be induced to try it. I am sure that a more general knowledge of its use will establish it as a valuable addition to our means of treating fractures.

For a fuller and more detailed account of its use, we would refer to a paper, by Dr. James L. Little, of New York, in Vol. 18, of the Transactions American Medical Association; in fact, it was from this report that our attention was called to it. It came at a time when we had become weary in trying to treat fractures, of the leg especially, with the various appliances recommended; we could find none to fulfill the indications completely, nor even well, with comfort to the patient. But, with the Plaster-Paris, all the indications are met perfectly; so it seems to us. In our opinion, there is no style of dressing for fractures, in some localities, that can compare favorably with it.

It is cheap, light, readily applied, can be perfectly adapted to any-shaped limb, free from danger of producing injury to the skin by pressure, little or no danger of constricting or ligating the limb. From its perfect adaptation, it prevents much

swelling, allows movement of the patient or part without detriment to the limb or dressing, secures perfect immobility of the bones at the point of fracture, admits of sufficiently free examination of the limb without disturbing the dressing, is worn with entire comfort, and keeps the limb dry by absorbing all exhalations from the skin.

The dressing may be applied directly after an injury; and, from its uniform support, prevents œdema. And, there is no danger to be feared from this, nor from pressure upon salient points, for the dressing can be applied so that there will be no more pressure upon the very point than on all the parts about it. There is no particular point which bears more pressure than another; the compression is even and equable.

In the treatment of fractures, there are several indications to be fulfilled: the essential one is the retention of the fragments in co-aptation; and the dressing which accomplishes that, most certainly is the best. Then, if, in addition, there is combined safety to the soft parts, and comfort to the patient, we have the essentials necessary for a good dressing.

In most cases of fracture, if there is maintained complete extension of the limb, there will be co-aptation of the fragments; and, if the parts can be thus secured, and all motion at the point of injury prevented, there will be little, if any, pain, and the parts be in the most favorable condition for early union. Take, for example, a fractured leg, and wherein is this dressing better than any other? By its taking hold of the foot and ankle below and the head of the tibia above, there is abundant means for making extension and counter-extension; all of the salient points are grasped so evenly that there is no danger from pressure. Then, the limb is nearly surrounded by the splint in its whole length, and evenly supported by it. The dressing is hard, which, absolutely, prevents the lower part of the limb from being drawn toward the knee, preventing any displacement in that direction; and, while the foot and knee are held in relative position, and neither end of the limb capable of being moved without the other,—for the whole dressing and limb must move together and alike,—there can be no

motion of the fragments at the point of injury, thereby allowing any amount of moving of the limb and body that may be necessary, without detriment to the part.

It is the only dressing which will bear, with any certainty, the rough usage in cases of delirium, which is not uncommon after fractures in the dissipated. With this, there is but little danger of injuring the limb. We have had cases where the limb has been thrashed about very roughly for several days, and even the patient standing and walking upon it without injury.

It is the best of dressing where the patient is to be transported, as is necessary in military practice, and not unfrequent in civil.

This dressing may be applied at any time during the treatment of a fracture: slight abrasions and vesications will heal readily under it, the plaster absorbing all of the exudation from such surfaces. It can be removed and a new one applied whenever necessary; but often one splint will be sufficient for the whole treatment.

Material for the Dressing.—Ground Plaster-Paris, water, canton flannel, and bandages. Preparation for dressing: shave or oil the limb, if it is hairy; cut from the canton flannel such a piece as will fit the limb; if for the leg, long enough to extend from the knee to the ball of the foot, and wide enough to envelope the foot and leg, except about an inch, or an inch-and-a-half, in front, which must be left uncovered by the dressing. One thickness will be sufficient, if for a child or youth; but two will be required for an adult. Thoroughly saturate the cloth in a solution of the plaster and water—equal parts of plaster and water, by measure. The plaster must be thoroughly mixed with the water. The solution, when well prepared, as above, will be about as thick as good cream.

Its Application.—Apply this saturated cloth smoothly to the limb, and confine it with a bandage; not too tight, but snug enough to adapt it well to the part. While it is being applied, the limb should be held in extension, and, when on, it must be laid upon something where it will rest easily, and

then held in position until it "sets,"—which will take from ten to fifteen minutes; at any rate, it must be held until it is hard enough to keep its place; then it may be left to itself, and, in course of a few hours, it will be entirely dry. It is well to lay the limb with the extremity a little elevated. After it is dry, the bandage may be removed and another applied; but, if the limb is comfortable, there is no need of removing it until the part is to be examined, which should be done in the course of a few days. But, if there should be pain, it must be undone and so fixed as to relieve it. Our experience has been, that when the limb has been held well extended, and the fragments well co-aptated, there is entire freedom from pain as soon as the dressing is applied.

The best thing to lay the limb upon while drying is a feather pillow, being careful not to have the heel bear more weight than the rest of the limb.

Precautions.—The plaster dressing must not surround the whole limb, but at least an inch or two inches must be left uncovered to prevent constriction, and to allow examination; then, as the œdema disappears, the splint can be tightened up to the limb by re-bandaging. The sides of the splint will give sufficient for this. Never pad or wad inside of the splint to make it fit; but, if for any reason, it does not fit, remove it and apply another.

The fragments must be held in place, and the whole limb in proper position, while it hardens.

Usually, cold water should be used to mix the plaster; but, if it is desirable that the plaster set more quickly, then warm water may be used; and if a little common salt is added, it sets very rapidly.

Canton flannel is the best to use, for it requires fewer pieces to render the dressing firm enough than plain cloth.

This dressing is applicable to all fractures of the leg, arm, fore-arm, hand, fingers, and about the knee, ankle, and elbow joints. It may be applied to the thigh, but it is not as good for that as the dressing known as Buck's method, by extension. But, wherever there are salient points for the dressing to be

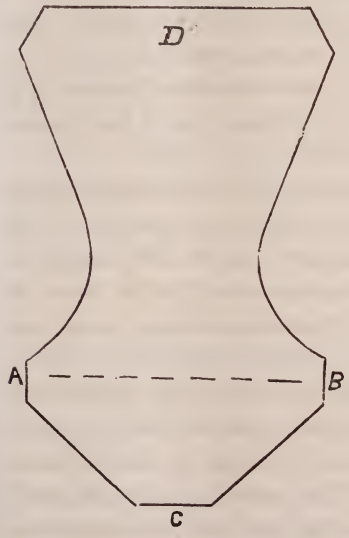
applied to, to hold the parts at rest, it seems to us to be the best dressing that can be used.

We have never used it for fracture of the patella, but would think the fragments could be held in place better with it than with most any other, by encasing the front and sides of the knee and holding the fragments together with the hand until it hardens.

In case of compound fracture, there is to be only a portion of the side or sides of the splint cut out at the point of injury, and the bandage removed as soon as the splint is dry, and so fixed that the discharges may run over the edge of the splint instead of under it. This may be done by filling in at the edge of the opening, a little lint or cotton; then cover it and the skin about the wound with isinglass-plaster or collodium, or both.

This method of using Plaster-Paris must not be confounded with the "plaster-bandage," nor with the old method of encasing the whole limb with a plaster mould.

(Fig. 1.)



(Fig. 2.)

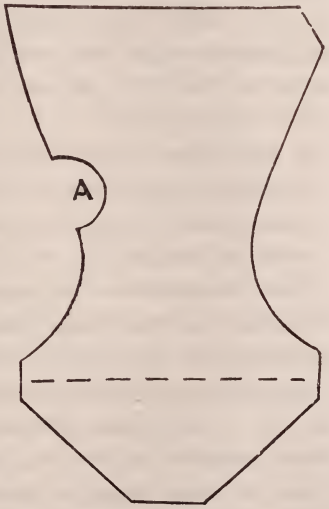


Figure 1—Is the form of the piece of cloth for the dressing. The heel should be laid on the middle of the dotted line *a b*,

and the foot portion *c*, and leg portion *d*, folded to the bottom and sides of the foot and leg, lapping about the sides of the ankle, or foot, as necessary to have it fit smoothly; then it is ready to be confined with a roller.

Figure 2—Shows a piece cut out of the side in case of compound injury.

ARTICLE XXXIII.

REMOVAL OF SALIVARY CALCULUS FROM EXCRETORY DUCT OF RIGHT SUB-MAXILLARY GLAND.

By CHAS. M. CLARK, M.D., Chicago.

History of Case.—*July 27th, 1870.*—Mr. S. came to my office, on the morning of July 22d, with, what he denominated, a *very sore throat*, accompanied by swelling underneath the tongue, which extended back on the right side, to the angle of the jaw, where quite a large-sized tumor could be defined. He had, occasionally, been subject to an enlargement under the angle of the right sub-maxillary, with considerable swelling under the tongue, for the past twenty years, but it had given him very little trouble or inconvenience.

It was most apt to occur at such times as he was conversing, or masticating his food, and then gave him some pain, until, by a peculiar manipulation with fingers and tongue, he reduced it.

The Symptoms—That were most prominent at the time he presented for treatment, were: excessive restlessness, some enlargement of right side of face; extreme sensitiveness when the parts were touched; increased flow of saliva and buccal mucus, of a ropy and adhesive nature; general febrile excitement; inability to swallow, but could manage to take a little water; mucous lining of floor of the mouth greatly enlarged and prominent, especially on the right side; temperature of the parts greatly increased, and a constant, dull, throbbing pain.

He stated that there was the sensation of *a* something draw-

ing his tongue upwards and backwards, and completely filling the fauces; yet, there was no dyspnœa at any time, and I considered the matter to be an exaggeration, for I could depress the tongue, but not sufficiently to allow a free examination of the throat.

THE DIAGNOSIS—Of this case, at first, was "ranula;" but, on his second appearance, this idea was dismissed, for there was wanting the characteristic, jelly-like cyst. In its place was a fleshy tumor, highly inflamed, and giving to the touch a sense of fluctuation. I then pronounced it to be either an abscess or a calcareous deposit that was seeking an outlet.

THE TREATMENT—Given the case is as follows:

July 22d—Made application, to the parts, of sol. nit. arg. ℥ij to ℥j aqua, which gave relief. Later in the day, I freely incised the tumor and scarified the surrounding membrane. No pus appeared, although the surface was secreting a creamy exudation looking like pus. The hemorrhage from the part did good.

July 23d—Repeated the treatment at my office, and with the same results, he being able to swallow with more ease.

July 24th—Complained of feeling worse; more difficulty in deglutition, with increased febrile action. Desired that I should visit him at his home.

Ordered chlor. potass., sol. sulph. morph. and glycerine for gargle; full dose of soda et potass. tart.; also, toler nt doses of ant. et potass. tort., and, later in the day, gave full doses of "hydrate chloral" in aqua camphora, but it had no effect as a hypnotic, and I had recourse to morphia. During the afternoon, he suffered immensely; complained that he could not swallow, and that his tongue was being drawn up to the roof of his mouth. I gave him inhalations of chloroform, and applied it to the face externally, which gave prompt relief.

At 9 P.M., ordered a stimulating pediluvium and gr. xv. of Tulley's powder; also, put a bistoury into the tumor.

After this treatment, he was able to take a cup of gruel without much inconvenience.

July 25th—Discovered a hard point in the tumor beneath the

tongue, and made a free incision, after which extracted a salivary calculus, weighing thirteen (13) grains, and composed, principally, of carbonate of lime. The following diagram will give an idea of the shape and size:

The extraction was followed by a small amount of pus.

The patient is an Englishman by birth, 36 years old, and an upholsterer by occupation, although for many years he pursued the avocation of a miner in Australia.

His voice, which has heretofore been harsh and coarse, is now as flexible and resonant as it was in his youth.

Correspondence.

Prof. Davis:—Is it true that the practice of homœopathy is interdicted in Russia?

Some months ago, I read a statement in some of our medical journals, that the Emperor of Russia, after giving homœopathy a fair and impartial trial, for three years, in hospitals set apart for that purpose, in St. Petersburg, had issued a decree that homœopathy should not be practiced in any of the dominions of Russia, under penalty of fine and imprisonment. Will you be kind enough to give us the truth of this matter, in as full a manner as possible, and oblige many who wish to use this fact as a climax, and as a *clincher* to our anti-homœopathic arguments, with the deluded admirers of the *similia similibus curantur* vaguery, the champion system of small ideas—unexampled in their narrowness—and of small doses, microscopic in their dimensions.

Yours, truly,

THEODORE GRIFFIN, M.D.,

582 South State Street.

Abridgments from Our Exchanges.

Oxygen Gas as a Remedy in Disease.—In the May number of this journal, we published entire the first three chapters of the able essay of Dr. A. H. Smith on this subject. The four remaining chapters treat directly of the therapeutic uses of oxygen. We summarize this portion of the paper as follows:

The diseases in which oxygen is most useful are of two classes: those in which respiration is at fault, mostly acute; and those in which there is defective nutrition or excretion, chiefly chronic.

Oxygen in Impaired Respiration.—Every condition in which there is dyspnœa will be benefited—temporarily at least—by the use of oxygen. The essence of dyspnœa is a disproportion between the quantity of venous blood in the lungs, and the amount of oxygen in the air cells; by breathing pure oxygen the equilibrium is restored.

Asthma.—The dyspnœa in this affection would at once suggest the use of oxygen. Beddoes used it in twenty-two cases, ten of which were cured, nine relieved, and three received no benefit.

Demarquay reports a case cured and one greatly relieved, and Birch reports one of absolute cure.

In the hands of Dr. H. Pinkney, in one case it relieved the paroxysms and reduced their frequency. Beigel reports three cases, one hereditary, in which oxygen was inhaled with liq pot. arsen. The paroxysms were relieved, and the tendency to recur decreased.

Surg. Gen. Barnes gave oxygen to the late Secretary Stanton, who had severe paroxysms of asthma during his last illness. It controlled the asthma completely.

Dr. Smith himself has given oxygen in two cases of asthmatic paroxysms, with the effect of immediate relief, but it was not continued during the intervals.

Pulmonary Emphyesma.—Dr. Beigel reports a very severe case in which, by inhalation of one gallon of oxygen every three hours, there was a prompt amelioration of the distressing symptoms; at the end of six weeks they had nearly all disappeared. During this time there was a solution of common salt, repeatedly taken by inhalation [atomized], also pure water. Subsequent to this a solution of tannin and morphia was used in connection with the oxygen. At the end of two months, the patient returned to business, still obliged to use the oxygen at intervals. He continued to improve under its use.

Another case is reported where oxygen was given only for a short time, and mainly for dyspnœa; this was relieved at every administration; the countenence lost its livid hue, the pulse fell from 122 to 100, and the respiration from 36 to 20.

Croup.—Dr. Beigel describes a severe case of croup in which the

usual modes of treatment had proved unavailing, the respiration being 40 and noisy, and the pulse too rapid to be counted, lips livid and face pale. The inhalation of one cubic foot of oxygen was followed by decided improvement: it was repeated, and the child made a prompt recovery. Dr. Miguel reports a case with symptoms identical with the above, in which recovery followed the use of oxygen. "I have been called in to give oxygen in several cases of croup, but always in the last stages, and when dyspnœa had been long continued. Under these circumstances, although the dyspnœa has been relieved, death has taken place."

Oxygen will do in croup all that can be done by tracheotomy, but neither is competent to undo the mischief wrought by prolonged dyspnœa. Hence the rule, with oxygen as with the knife—*use it early.*

Diphtheria.—Dr. Beigel reports two cases in which a state of coma disappeared at once on the administration of oxygen; the eyes became bright, the pulse rose, the face became ruddy, and the appetite soon returned.

I have given this agent in only a single case of diphtheria; the patient was in *articulo mortis*, but life was sustained by it for five hours, the patient choking at every suspension of it, and dying in five minutes after its administration was stopped. In this disease we have, added to the dyspnœa, a septic condition of the blood, which greatly depresses the powers of life.

Pneumonia.—Dr. Golden reports a case of double pneumonia, with great dyspnœa, which resolved in four days under the use of oxygen.

Despite its contra-indication in acute inflammation, "I should not hesitate to use it in a case of double pneumonia;" the fear that it will excite pneumonitis by its local action is without foundation.

Capillary Bronchitis.—In this affection oxygen is especially valuable, as, while relieving the dyspnœa, it diminishes the formation of mucus in the lungs, which latter is largely the result of labored repiration. Inhalation of oxygen removes the necessity for forced breathing, and thus lessens congestion of the mucous membrane, and lessens the tendency to effusion. Hence it is not only palliative but curative.

In *opium poisoning* and in *cholera* collapse there exist rational reasons, and no little evidence, practically, in favor of the use of oxygen.

The Use of Oxygen in Diseases with Defective Nutrition.

Phthisis.—We have abundant evidence to show that in this disease, as in others in which nutrition is defective, as a rule, the use of the gas favors assimilation, and results in a gain in weight. But whether it exerts an influence on the morbific principle, the essence of the disease, facts alone can determine, and, up to the present time, sufficient facts have not been gathered to warrant an answer.

There is considerable evidence to show that oxygen may arrest the progress of the disease for a time, and possibly eradicate it. Experiments show that oxygen, in contact with a wound or ulcer, acts as a stimulant, and, carried too far, sets up active inflammation. Herein we have a therapeutical indication, and possibly a solution of our failures with oxygen in phthisis, especially in its advanced stages. Too little diluted it may excite inflammatory action in the pulmonary ulcers, and thus aggravate the general disease. There are cases on record, with cavities and purulent expectoration, in which oxygen has been for a time beneficial, but has then produced symptoms of local inflammation. By diminishing the action in time, this effect would be avoided, and the benefit gained be retained.

Demarquay reports two cases and quotes a third in which phthisis had advanced so far as to develop cavities, and extreme emaciation and prostration, and when oxygen was given—in small quantities at first, and carefully increased—with the effect to bring the patients up to a good degree of vigor and comfort, but not radical cure.

M. Hervé de Lavour, also quoted by Demarquay, has given oxygen in nine cases of this disease. In three cases, under the use of four gallons daily to begin with, increased to twelve gallons taken at two sitings, the patients made rapid and sure improvement. The other six cases received little or no substantial benefit from the treatment.

Birch reports two undoubted cases of absolute cure of phthisis by oxygen.

Experiments made upon ten consumptives in the New York Hospital, giving each six gallons of oxygen daily, caused the weight of six to increase in four weeks an aggregate of forty-nine and a-half pounds, while the other four lost seven pounds. In several cases, there was at first a rise in temperature, which disappeared on suspending, for a short time, the gas.

After relating three cases of his own, which seem to show perfect cures, and statement of several in which success was less flattering, Dr. S. says: "While not prepared to endorse the opinion of Birch, that, with the use of oxygen, the cure of consumption in its earlier stages should be the rule rather than the exception, I have no hesitation in saying, that I have more confidence in it than in any and all other remedies."

In *anæmia*, oxygen is strongly recommended, and two cases are detailed to show its almost magical effect in this condition.

In *dyspepsia* it has succeeded when all other means failed. Trousseau commends it in highest terms, and speaks of having "*recalled to life* women regarded as lost from great depression of the digestive powers. Demarquay relates a similar experience. Birch insists on the power of oxygen to remove congestions of the liver, and to relieve the dyspepsias resulting therefrom.

In *diabetes,* while there are no records of cure by oxygen, there are several cases which have received from it decided benefit.

La Passe, Hill, Demarquay, Birch, and Dr. Mackey all testify to the power of oxygen to promptly relieve the ordinary headaches, neuralgic and "nervo-congestive."

Of cases of *epilepsy* treated with oxygen by various observers, four were cured, while five received no benefit.

Application of Oxygen in Surgery.

Demarquay compelled a dog, with a wound near the axilla, which looked dull and had grayish edges, to breathe pure oxygen. In two minutes the wound became rose red. The surface presented some small ecchymotic spots, which bled slightly, and an abundant serous discharge flowed from the surface of the wound. On suspending the inhalation, the wound changed to its former color at once, and the surface became dry and dull-looking, like a mirror breathed upon. He observed a like effect from the same course on the human subject. Taking the hint from such experiments, oxygen has been used in many cases of slow-healing wounds and sores. Many cases are reported of ulcers, scrofulous and syphilitic, of long standing, which have been most happily cured by this means. One of these ulcers had resisted all treatment for 18 years; six months after cure it had not reappeared.

Action of Chloral on the Insane.—Dr. J. B. Tuke, Supt., &c., Lunatic Asylum, has instituted some experiments to determine the effect of hydrate of chloral in the treatment of the insane. He selected, upon which to experiment, a case of chronic alcoholism, with acute mania; two cases of asthemic insanity, with melancholy; and a case of climacteric insanity, accompanied with melancholy.

These patients were carefully observed for three days previous to the use of the chloral, and the temperature, pulse, respiration, and general condition were carefully noted. For the next four days, half-drachm doses of the medicine were given, morning and night, the effect being noted. On the next three days, the medicine was omitted, when it was again administered for four days. Subsequently half-drachm doses were given at night, for a few nights, and then entirely discontinued.

In the first case much improvement followed the use of the remedy; the patient was much quieter, and sleep was improved. She had been very maniacal for weeks before this treatment, but after it, became conscious, went to work, and slept in the general dormitory.

With the second patient, after the treatment there was "well-marked improvement in the case."

Of the third patient, he says, after the chloral had been given for a time, "her mental symptoms were much abated. She began to work, and, although still miserable, to see some hope for herself. On discontinuing the chloral, restlessness and irritability returned,

which were again allayed on its resumption." The medicine was then given four days, with good results, after which it was declared that she was well on the road to convalescence, that she was employed as a housemaid, slept well, and was rapidly gaining in bodily condition.

The fourth case was a remarkable one. The patient was noisy, restless, and dementedly melancholy; her case was regarded as almost hopeless.

The effect of the chloral on this case was striking; a sleep followed each dose. On leaving off the medicine temporarily, the old symptoms—which, while the drug was being taken, were held in abeyance—returned, but with less severity. When resumed, it produced the same effect as at first; on its second discontinuance the condition of the patient was much improved.

Dr. T. has used it frequently in chronic cases of insanity, in which violent outbursts of excitement occur, and always with good effect.

The insomnia of climacteric melancholy is much relieved by a dose of 30 or 40 grains at bedtime.

He regards it as the most valuable means of procuring sleep now in use by asylum physicians.

There is some difficulty in ascertaining the exact dose for each case; but this is obviated by beginning with half-drachm doses, and increasing till the limit is found.—*Lancet.*

Prognosis in Chronic Diseases of the Heart.—On this subject Dr. Austin Flint has written an interesting and very valuable paper, with the evident intent mainly to mollify, in some measure, the gravity of the usual prognosis in the cases referred to.

It is, he says, a popular belief that all cardiac lesions are alike dangerous: all liable to end fatally at any moment, and a patient afflicted with such disease is regarded as under sentence of death, the execution to occur without warning.

But there are lesions which are devoid of immediate danger, and sudden death from heart disease is the exception and not the rule.

Prognosis must be based on diagnosis; while by auscultation and percussion the diseases of the heart are discriminated with more precision, promptness, and positiveness than those of any other province of the nosology, a too exclusive reliance on physical signs is apt to lead to errors in prognosis, so prejudicial to the patient that it were better the information had not been obtained. This may seem strange, but it is true; it arises from want of appreciation of other circumstances than physical signs.

A patient may have the heart's action disordered, irregular, or intermittent; these symptoms may persist or recur often, and he may have dyspnœa and pain at the præcordia. General dropsy may occur, the kidneys being free from disease. With all these phenomena cardiac lesions may not exist; the disturbance may be

purely functional. There may be even angina pectoris, without organic lesion. This affection may occasion death without cardiac lesion, but this must be rare. With the exception of these rare instances, if the affection of the heart be purely functional, there is no danger. The question, then, upon which prognosis hinges is: Does cardiac lesion exist? If auscultation and percussion show an absence of it, we may declare the affection functional and without danger.

Lesions of the valves which cause murmurs do not always portend immediate or even remote evil consequences. Many persons pursuing their avocations have, unconsciously, organic disease of the heart. Some of these may eventually die of this trouble, yet not a few will live to a good age, and die of some other disease. But let such an one be informed of his malady, and he has received a blow from which he will never recover; he looks upon himself as doomed. The depressing effect of the diagnosis shortens his life. "I have records of cases in which organic endocardial murmurs existed from ten to thirty years ago, the persons now living, and exempt from ailments referrable to diseases of the heart."

The intensity and quality of heart murmurs are not of much account in judging of the importance of valvular lesions. A loud, rough, or musical murmur does not necessarily indicate a more grave lesion than one that is soft, feeble, and blowing.

Barring the accident of embolism, in valvular lesions producing murmur, there is no danger so long as the heart is not enlarged; for valvular lesions cause enlargement of the heart before any other effect that jeopardizes life. Moreover, in most cases, enlargement of the heart from valvular lesions is produced slowly, the ulterior effects being proportionately distant.

Hypertrophy of the heart, as a result of obstruction to the blood-current, or regurgitation, or both, is a conservative provision. The increased muscular power makes amends for the disturbance of circulation, and prevents evils which would otherwise ensue. A patient is comparatively safe even though the heart be greatly enlarged, provided this be from muscular growth or hypertrophy. There is, however, nothing conservative in dilatation, but the opposite. In proportion to the dilatation is the ability of affective contraction impaired; it increases the labor of the contraction by allowing a larger accumulation of blood. It is by means of this weakness that valvular lesions lead to remote evils—systemic congestion and general dropsy. Hence the necessity to determine whether an enlargement is a dilatation or hypertrophy.

While hypertrophy compensates for valvular lesion, this in turn sometimes may be conservative as regards hypertrophy. Certain evils, liable to occur from hypertrophy of the left ventricle if the valves be sound, are warded off by co-existing valvular lesions.

Statistics show that there is more danger of sudden death from distension with blood, and paralysis of the left ventricle as a result

of aortic obstruction or regurgitant lesions, when these exist alone, than when associated with mitral lesions.

Cases occur in which, with organic disease of little consequence, functional disturbance is induced by other causes. This is very apt to be imputed to the organic lesion, and a needlessly grave prognosis be given.

There is a vast difference among patients in the toleration of chronic heart disease; the power to withstand its effects is in proportion as the other functions of the body are healthfully performed; this relates more especially to the whole function of nutrition.

In the majority of cases of chronic heart disease, the cardiac lesion is not exclusively or directly the cause of death. Most patients perish from intercurrent affections, dependent upon, or accidentally associated with, the heart lesion. Of the cases where cardiac lesions are fatal, sudden death occurs in a very small proportion.

Of valvular lesions, those which occasion aortic regurgitation involve the greatest liability to sudden death. The immediate cause of death is paralysis of the left ventricle from over-distension.

Fatty degeneration, with valvular lesion and dilatation increases the liability to sudden death; but it is not easy to determine this combination during life.

There is danger of sudden death when angina pectoris is associated with organic disease of the heart, and most when this latter is aortic regurgitation, the mitral valve being sound; and association with fatty degeneration increases the danger. In angina there is little or no danger, unless the patient have a sense of impending death and feels the necessity of perfect quietude.—*New York Journal of Medicine.*

Supra-Uterine Pressure.—This is the name which Dr. J. H. Grant (*N. O. Med. Jour.*) gives to an expedient he has resorted to with success, as an aid in difficult labor. It consists in the application of strong, firm, and equable pressure over the whole region of the fundus uteri, at a stage of the labor when, with dilated, or dilatable os, with a normal presentation, and no obstacle to the labor, save the want of power to propel the fœtus through the parts, the labor does not progress. It is applicable to that class of cases in which the forceps and ergot are resorted to. He believes it may and ought to displace the use of these means altogether. In some of his cases a pressure was made of not less than forty pounds.

The hands of one or more assistants are to be spread out over the fundus uteri, and any amount of pressure necessary to enable the uterus to move forward its contents should be applied As soon as the pressure is commenced the pains augment in intensity, and return with great regularity. The pressure assists nature to do her work in her own way. The character of the pains differs from that

induced by ergot; this drug excites the uterine fibra, inducing great irritability, and, if delivery does not speedily follow, may do much mischief. The pains from the pressure are natural; the uterus is not forced to expel its contents, but is assisted to do so. If the pressure is made to embrace a considerable portion of the body of the uterus, it has a tendency to support that organ and preserve it from rupture. Reason would teach that an organ like the womb cannot be ruptured by pressure in the longitudinal direction of its fibres. Supra-uterine pressure equalizes uterine action, and causes all parts of the organ to act simultaneously and regularly. Nor need we fear injury to the fœtus; the pressure is made on the fœtus as a whole, and not on any particular part. Obliquity of presentation, want of flexion, and rotation are deviations which commonly result from atonic action of the uterus. By physical assistance of the organ, bringing it to a point of vigorous action, these difficulties will be overcome.

This mode of practice promises to be very useful in placenta plævia. In these cases we can, in the early stage, hold the hæmorrhage in check with the tampon, till the os is dilated, when we can accelerate the advance of the child to any desired extent, and, as the after-birth separates from the cervix, the head of the child will form an efiection tampon, and restrain the bleeding till the birth of the child.

He usually prefers that, when this practice is resorted to, the parturient woman be sitting across the midwife's lap.—*N. E. Journal of Medicine.*

Vaginal Ovariotomy. *By Dr. P. G. Thomas.*—In a multipera of sparn habit and nervous temperament, there was discovered a movable cyst behind the uterus which pushed that organ forward, and occupied completely the cul-de-sac of Douglas. It was of the size of a large orange, and could easily be pushed out of the pelvic cavity. The patient had supposed she had retroflexion, but Dr. J. L. Brown diagnosed it as cystic degeneration of the ovary.

On consultation three plans of procedure were proposed: that the cyst be allowed to develop, and be operated upon sometime in the future; that the cyst should be tapped per-vaginam; and that the operation of ovariotomy be performed through the fornix vaginæ, in the same manner that it is usually done, through the abdominal walls. The last proposition was made by myself, and upon these grounds:

1. The cyst being movable, sufficient space could be obtained through the fornix vaginaæ to withdraw the empty sac.

2. This procedure I preferred to simple tapping, which is liable to be followed by drainage and exhaustion to the patient. The increase of danger was not regarded as great, even if removal of the cyst proved impossible.

3. An early operation was advisable, owing to the anxious nature of the patient.

The operation being decided upon, the patient was etherised and placed in the knee-elbow position by the apparatus of Dr. Bozeman.

To prevent the rectum falling into the line of incision, a rectal bougie was inserted for about five inches.

Sims' speculum was introduced, the perineum and posterior vaginal wall were lifted, and the fornix vaginæ was caught midway between the cervix and rectum with a tenaculum, drawn well down, and with a pair of long scissors, one limb of which was placed against the rectum and the other against the cervix, a cut was made through it into the peritoneum at one stroke.

The patient's position was now changed to the dorsal decubitus, and, passing a finger through the incision, it touched the tumor which had fallen again into the pelvis.

With a trochar—it having been secured with a tenaculum—I punctured three cysts which gave vent to six or eight ounces of fluid, resembling vomited bile. Drawing upon the cyst it passed easily into the vagina.

The patient was now placed in Sims' position, on the left side, and his speculum introduced. A needle, armed with a strong double silk ligature, was passed through the pedicle at its point of exit through the vaginal wall, and each half of the penetrated tissue was tied, and both cyst and ligature were cut off. The cul-de-sac of Douglas was then sponged, the pedicle returned to the abdominal cavity, and the incision closed by one silver suture.

After the operation the patient was kept quiet by opium, and kept in the supine position. After ten days of improvement, and without any unfavorable symptoms, she was allowed to exercise herself unduly, and brought on an attack of peri-uterine cellulitis. She recovered from this, and on the thirtieth day was declared out of danger.

Any one undertaking this operation should rehearse the first step of it upon the cadaver before attempting it upon the living subject. Before making this operation, one attempt was made on the cadaver. The difficulty in this attempt induced me to practice the procedure on seven other dead bodies before attempting it on the living.—*Am. Journal Medical Science.*

Form of Neuralgia of the Jaw-Bones Hitherto Undescribed. (*By S. D. Gross, M.D., Prof. Surgery, etc.*) The seat of this affection is in the remnants of the alveolar process of edentulous persons, or in the alveolar structures of the overlying gums, and occurs mainly in elderly persons. It occurs most often in the upper jaw, and usually affects but a small extent of surface. The soft tissues in the immediate vicinity do not seem to suffer as in ordinary neuralgia, save in a slight degree. The morbid action is

generally limited to the bone, although the gum may be, in rare instances, involved. The gum is nearly always hard and dense, grating under the knife, and adhering with great firmness to the atrophied alveolar process beneath.

The pain is generally paroxysmal, as in ordinary neuralgia, the slightest causes provoking it, as talking, masticating, the contact of hot or cold fluids, deglutition, or mental excitement. Sometimes it is momentary, occasionally it lasts for hours, and a few cases occur in which it continues with little mitigation for an indefinite period. The pain varies in character, and pressure relieves rather than aggravates it.

The pathology of the affection seems to be compression of the minute nerves distributed through the wasted alveolor process, dependent upon the encroachment of osseous matter upon the walls of the canals in which they are naturally enclosed. The osseous structure is always abnormally hard from the deposit of new substance which imparts to it an almost ivory-like consistence.

The disease usually comes on gradually, growing worse, until the suffering is intolerable. The general health becomes eventually impaired, the appetite deranged, the sleep disturbed, the countenance anxious, digestion imperfect, bowels constipated, and the spirits much depressed. Sometimes the disease would seem to be of malarious origin, the attacks coming on periodically. The professor gives a history of six cases which illustrate this disease, and the treatment he institutes for its relief.

The treatment consists in carrying an incision along the alveolar ridge over the painful structures, dividing and turning aside the soft parts, including the periosteum, and removing, by means of cutting pliers (constructed for the purpose), and the gouge, the affected bone to a level with the palatine process.

He has not found the bone at all diseased, and, from all his operations, recovery has been both prompt and complete.—*Am. Journal of Medical Science.*

Double Salts of Carbolic Acid. — The difficulties in the administration of carbolic acid have peen overcome in the discovery and employment of salts of the sulpho-carbolic acid ($C_6H_6S\,O_4$) with the alkaline, earthy and metallic bases. The first compound salt, the sulpho-carbolate of potash, was obtained by Crooks. Dr. Sansom has produced in addition the following salts, all having the character of true double salts, and possessing brilliancy and decidedly crystalline forms: sulpho-carbolate of sodium, of potassium, of ammonium, of magnesium, of zinc, of copper, and of iron. An inquiry instituted with a view of determining the relative efficiency of the various salts in staying fermentative action, established the following results;—1, the sodium salt; 2, magnesium; 3, potassium; 4, ammonium. It has been shown, from experiments upon the lower animals, as well as from the results of administra-

tion to the human subject, that the following is an outline of the plan of action of the sulpho-carbolates: They are absorbed with great rapidity, exert no toxic effect (the human subject readily taking drachm doses every four hours), are decomposed in the system into—*a*, carbolic acid which, traversing the system, is exhaled by the breath; *b*, sulphate of soda, which permeates the tissues after death. It is shown that an influence, enabling the body to resist putrefaction, has been exerted; the urine passed also resists decomposition. Prolonged courses of sulpho-carbolate of sodium, given for two months to phthisical patients, show that the drug could be administered not only with impunity, but with considerable advantage. Of 35 cases, 13 greatly improved; 15 considerably improved; and 9 cases gained in weight an average of $2\frac{1}{2}$ pounds.—*Med. Times and Gazette, Half-Yearly Com.*

Dr. Edward Lawson (*Practitioner*) says, the sulpho-carbolates are not powerful *direct* antiseptics; they are far less powerful than carbolic acid; half a grain of pure acid is equal to twenty grains of sulpho-carbolate of sodium. Not only is the salt as compared with the acid far less efficient in destroying the life of vegetable cells, but the acid loses in this power by combination with the base; *i. e.*, one grain of the acid, when free, is as efficient as twenty times that amount in combination. But these salts can be readily administered without difficulty or danger; *in transitu* throughout the system the carbolic acid becomes evolved, producing its effect. In the sulpho-carbolate we are enabled in effect to administer carbolic acid in an innocuous form, and in larger quantity than otherwise possible.

The *sulpho-carbolate of zinc* has been used as an external application in the form of lotion. Ten grains should be dissolved in an ounce of distilled water. It abolishes the fetor of pus-forming surfaces, and is superior to carbolic acid on account of the absence of irritating qualities, and of all unpleasant odor.

For internal use, the sulpho-carbolate of sodium is preferable; its solution in water has no unpleasant taste. The dose is 20 to 60 grains.

Given in phthisis, while it has no power to arrest the disease, there was a steady gain in nutrition; in many cases the strength increased, rest improved, the fetor of expectoration was arrested, the night sweats decreased, and the appetite improved.

I employed it in five cases of severe tonsillar ulceration, which all rapidly recovered without suppuration.—*Half-Yearly Compend.*

On a Rare Disease of the Joints.—Dr. Samuel Jackson, Emeritus Professor, etc., gives an account of several cases that have fallen under his observation, of a rare form of disease resembling rheumatoid arthritis, if they are not examples of this affection.

The peculiarity of the malady is, that it is confined to a single tissue—the ligamentous—the general health of the patient not being disturbed.

So far as his cases indicate the character of the disease, it seems to continue for years, to be incurable, but to have no direct tendency to cause death.

In one case in which the joint of the wrist and hand was the one affected, all the bones were dislocated. In another, both wrists were dislocated at every movement. It was evident that the cartilage had disappeared, and that the bones had become smooth by friction upon each other.

A third case had every joint dislocated and stiffened; yet the general health was good, and the patient lived for years with no pain save on an attempt at motion.

One patient traveled extensively, and received the best care and treatment for ten years. "During all this time the disease gradually progressed, stiffening the joints, until she became incapable of motion, and had to be carried about, fed like a child, and waited upon. And yet her general health is perfect, and has always been so; her organic functions are unimpaired, and her spirits are not affected."—*American Journal of Medical Science.*

New Treatment for Aphonia.—Dr. H. K. Olliver, of Boston, contributes a paper to the *Am. Jour. of Med. Sciences*, in which he describes a novel mode of treatment for "Phonic Paralysis," or "paralysis of the adductors of the vocal cords," a form bilateral in character, and usually dependent on debility, hysteria, or some other impairment of the nervous system, but sometimes upon emotional influences and weakness of the muscles following laryngitis or straining of the voice. The laryngoscope reveals partial or complete paralysis of the cords. In the latter case, these ligaments remain widely open on attempted phonation, while in the former, they approach the median line, but not sufficiently to produce a sound, or if they do, are not held together with sufficient force for this purpose. The methods of treatment commonly employed in this affection have been galvanism, stimulants to the larynx, the "gymnastics of the larynx," the use of anæsthetics and general hygiene. Moreover, the voice has been known to be restored suddenly, under some general excitement or mental impression.

In addition to the above treatment, he proposes that by the manipulation of the larynx. This consists chiefly in compression of the thyroid cartilages in their posterior and upper part, by the thumb and forefinger. Such compression practiced on the dead subject will approximate the arytenoid cartilages and the vocal cords, which latter will become tense. In the living subject, pressure produces the same effect, as may be seen by the laryngoscope.

In using this treatment, the patient is instructed to make an attempt to produce a sound like that of *a* or *ah*, or any sound of the voice whatever, while the larynx is being compressed.

Many of these cases seem to depend on a lack of power to *start the machinery* of the vocal apparatus; when once started, the power of keeping up the action is easily afforded; the paralysis seems to be of an unusual character. Well-known instances of sudden restoration of voice show a condition peculiar to the laryngeal muscles. Quacks have restored the voice immediately by grasping the throat and violently compressing it. Such recoveries may have been owing partly to a mental impression upon the patient, but may have been aided by such an adaptation of the parts of the larynx as is described, albeit a condition unappreciated by the operator.

As an aid to this manipulation he takes advantage of the valvular nature of the vocal cords. The vocal cords, when approximated, constitute a valve opening outward, while the false cords form a valve opening inward. In the complete glottic closure, when inspiration and expiration are impossible, the former act is prevented by the vocal cords and the latter by the false cords. The degree of approximation necessary for producing vibration with inspiration, seems to be considerably less than that required with expiration, proof that the form of the cords offers a greater resistance to the inflowing than the outflowing air. Now, by the method suggested, the cords are sufficiently approximated to offer resistance to the air by compression of the cartilage, and a still greater approximation sufficient for vibration of these ligaments, is made by strong and sudden inspiration. In the two most obstinate cases reported, a voice sound could be produced by inspiration before any could be made by expiration. When once started, however, the natural voice was soon established. Dr. O. gives the history of six cases—all in which he has employed this method of treatment—and they all show successful results. The longest time any one had been aphonic was eight years, and the shortest three months.

The manipulation and pressure were made for a few minutes at a time, intervals of rest being allowed between, and no case required a treatment in this way for more than an hour. In nearly all the cases there was a tendency to whisper after the voice was restored, and the patients were instructed to read aloud daily. This had the effect to make the cure complete.

Veratrum Virida in Pneumonia.—Dr. T. M. Woodson, in

the *American Practitioner*, strongly advocates the use of veratrum in pneumonia. He gives a history of four cases in which he used it in six to seven drop doses every three or four hours, with large doses of Dover powder, and sometimes calomel. Some of these cases were very severe, the pulse reaching 132, with the temperature 105°, and respiration over 30. The drug brought down the pulse promptly, sometimes with vomiting and purging, but safely, to from 55 to 70 per minute; the temperature and respiration were proportionally reduced, and convalescence was speedily established. The doctor has followed this practice for many years, with fine success. The veratrum works more kindly in conjunction with opium, and these two agents he places at the head of all remedies for the active stage of pneumonia.

Catarrh of the Uterus.—Dr. G. W. Hamilton, writing on this disease in the *Buffalo Med. and Surgical Journal*, claims that its pathology consists in dilation of the capillaries and congestion of the lining of the uterus. When there is no ulceration, he advocates the use—in addition to good hygiene, and such medicines as will regulate the bowels and secretions, and improve the digestion and general health—of injections of persulphate of iron, of the strength of 24 grs. to the half-pint of water, and the internal use of ergot in moderate doses for several weeks continuously. The ergot operates by increasing the tonicity of the capillary bloodvessels of the uterus, improving the circulation and removing the congestion. Ergot does not retard the circulation unless given continuously and in large doses; it may be given a long time in proper medicinal doses, without any bad effect whatever.

Bromide of Potassium in Its Effect on Children.—E. Montard-Martin, of the Beaujou Hospital, France, reports a number of cases to show the effects of this drug on infants and small children. It is invaluable in all cases of dentition, where there are aggravating nervous symptoms, and it is improper to give opium. In sleeplessness of infants, in cough purely spasmodic, he gives it in doses of $\frac{3}{4}$ gr. once or twice a day to children from three months to a year old. In purely nervous cough it is equally indicated; but it should not be given in diarrhœa, as it increases this difficulty. In excessive erethism of any sort, and especially in those cases of boys where there is almost constant erection of the penis, it works most happily.

When administered to infants, the breast should be given at once afterwards.—*New York Medical Journal.*

A Placenta Previa and Double Births is recorded by Dr. Maquida, of Mississippi, in which the mother and both children were saved. The first child presented by the breech, and crowded aside the placenta without wholly detaching it from the uterine walls; it was a small child. The second presented by the occiput, forcing down the placenta and directly occluding the os. With a little assistance the placenta was wholly detached from the uterine walls, and the delivery completed with no excessive hemorrhage.—*N. O. Med. Jour.*

Humulus Lupulus in Intermittent Fever.—Dr. W. Y. Godberry, of Benton, Miss. (*The Jour. Materia Medica*), regards the anti-periodic power of humulus lupulus as equal to that of any other article in the Materia Medica, except quinia, and has often found it to succeed in arresting intermittents after quinia had failed.—*Medical Record*

Physicians and Druggists in America.—Dr. A. B. Prescott, of Ann Arbor, Michigan, states that there were 55,000 physicians in this country at the last census, and 11,000 druggists. At present there are about 74,000 physicians.

Book Notices.

The Practice of Medicine. By Thomas Hawkes Tanner, M.D., F. L. S., Member of the Royal College of Physicians, Fellow of the Royal Society of Literature, etc., etc. Fifth American, from the sixth London Edition, enlarged and thoroughly revised. Philadelphia: Lindsay & Blakiston. 1870.

This is an elegant volume of 1200 pages, containing a copious index, and numerous formula, besides a fair summary of the present state of Medical practice. It is a convenient work, but too well known to require an extended notice. In the appendix we find about forty pages of fine print, devoted to the consideration of climates for invalids, and mineral waters; which contain much valuable information.

For sale by S. C. Griggs & Co. Price, $6.00.

The Physical Exploration of the Rectum; with an Appendix on the Ligation of Hemorrhoidal Tumors. By William Bodenhamer, A.M., M.D. Illustrated by numerous drawings. New York: Wm. Wood & Co., 61 Walker St. 1870.

This is a monograph of 54 pages, on a subject of much practical importance. It is illustrated by numerous well-executed cuts, and written in good style. The author has studied his subject well, to which has been added an ample practical experience. Every practitioner will find it very useful and convenient.

A Guide to the Examination of Urine; for the Practitioner and Student. By J. Wickham Legg, M.D., Member of the Royal College of Physicians; Physician to the St. George, Hanover Square, Dispensary. Second Edition. Philadelphia: Lindsay & Blakiston. 1870.

This is a small volume of 88 pages in flexible binding, and contains a plain, concise account of the most practicable methods of examining the Urine, for the purpose of ascertaining its qualities and composition, in health and in disease. Its cost is trifling, and it will be found very convenient both for students and practitioners.

Half-Yearly Compendium of Medical Science. Part 5, July, 1870. Philadelphia: S. W. Butler, M.D., 115 South Seventh Street.

This is a copious abstract of the more important matter that is published in American Medical Journals, with some additional from foreign sources. The present number is printed on good paper, and contains 304 pages. For such practitioners as are able to subscribe for only one or two regular medical periodicals, the Compendium is a most valuable publication. It is edited by Drs. S. W. Butler, D. C. Brinton, and G. H. Naphys, all industrious men. Price, $3.00 per annum.

Editorial.

Medical Colleges in Chicago.—The next annual course of instruction in the Chicago Medical College and Medical Department of the Northwestern University will commence on Monday, October 3, 1870.

The Introductory Lecture will be given in the evening, by Prof. H. A. Johnson. As it will be the formal opening of the new college building, it is expected that the President and Faculty of the University will be present and participate in the exercises, thus making the occasion one of more than ordinary interest. The College is on the corner of Prairie Avenue and Twenty-sixth Street, in immediate connection with the Mercy Hospital and Dispensary.

The Rush Medical College commences on Wednesday, the 28th of September.

The Woman's Hospital Medical College commences on Tuesday, October 4th.

Chicago now has a population of about 300,000, and her colleges and hospitals afford as good facilities for medical instruction *in every department,* as can be found in any city in the United States.

Correction.—The case of Ovariotomy reported in the September number of The Examiner, and credited to "M. A. Chase, M.D., of Siruoza, Wis.," should have been credited to H. A. Chase, of Viragua, Wis.

In the record of proceedings of the Illinois State Medical Society, the name of Dr. O. Everett, of Dixon, is printed Dr. O. *Evarts,* and that of Dr. George W. Hewett, of Franklin Grove, is made to read George W. *Heath.* We have read manuscript for many years, but we continue occasionally to misinterpret the names of both men and places.

New Work.—We see by some of our exchanges that Prof. Byford's work on the "Theory and Practice of Obstetrics," has been published by Wm. Wood & Co., of New York. It is represented as an elegant volume of 450 pages, well-illustrated with cuts, and well-adapted for the use of students and practitioners. It is less

voluminous than most of the standard works on Midwifery, and yet sufficiently full in direct practical details.

We shall notice it more at length when we receive a copy of the work.

British Medical Association.—The Annual Meeting of this Association commenced in Newcastle-on-Tyne, August 9, 1870. Through the kindness of our friend, Dr. S. J. Jones, who was present at the meeting, we have been furnished with full reports of each day's proceedings, and abstracts of the various papers presented to the Sections.

The sessions were continued four days. The papers prepared for the Sections numbered more than fifty; some of which were highly important.

Mr. Furneaux Jordan, presented a paper on the "Treatment of Enlarged Lymphatic Glands," in which he advocated strongly the maintainence of counter-irritation, not over, but in the vicinity of the gland affected. For instance, in enlarged glands of the neck, he makes decided counter-irritation with iodine over the back of the neck, extending it to a line a little below the diseased glands. He also recommends pressure with *shot-bags* on the tumors, as much as the patient can bear in a recumbent position, for a little while each day. By these means he claims unusual success in the treatment of this class of troublesome ailments.

M. Teevan, read a paper on "Spermatorrhœa," in which he made an important distinction between true Spermatorrhœa, and involuntary nocturnal emissions. The former was characterized by the unconscious passage of the Spermatozoa in the urine, and was almost always accompanied by a loss of sexual desire, and resulted from habits of debauchery, indigestion, and local irritants. The pathological condition is one of loss of sensibility, and consequent relaxation of the seminal ducts, and is most likely to be relieved by good hygienic regulations, chalybiate tonics, strychnine, and electricity. Sometimes the application of nitrate of silver to the orifices of the seminal ducts, is useful; but bromide of potassa and other nervous sedatives are worse than useless. On the other hand, the usual nocturnal seminal emissions depend on a morbid excitability of the sexual organs, with excessive sexual desire, in most cases.

Such cases are much more likely to be relieved by free, habitual, muscular exercise, plain diet, and pretty full doses of the bromide of potassa taken at bedtime. In the first variety, continence or entire abstinence from sexual intercourse is regarded by M. Teevan as essential to recovery. Our space in the present issue will not permit us to notice more of the interesting papers read in the several sections.

The general meetings of the Association, which were held a part of each day, were occupied mostly with the subject of medical education and examinations.

The British Medical Association appears to be occupied in the same work for which our own national organization was instituted. The great central evil of the system of medical education in Great Britain, and the remedy, are very clearly stated by the President, Dr. Charlton, in his opening address. He says, "Although the deficiencies of medical education, and the condition of the medical practitioner, had long before been discussed in our journals, and been set forth in language sharp and incisive as that of Junius, still it is only within the last two decades, that the whole profession, tired of calling upon Jupiter, has unanimously put shoulder to the wheel, and moved with one accord to remedy our wrongs. United by its able journal, united still more by the cordiality engendered at these annual meetings, the British Medical Association has pushed forward in the path of medical education, and the general regulation of the profession; and, now that final struggle for a good standard of medical education is finally before us. Hitherto the paramount obstacle to progress has been the multiplicity of sources from whence licenses to practice medicine have been derived. No uniform standard of education could be kept up amid these jarring interests. The well-meant endeavors of the Medical Council, by sending out examiners to visit the different universities and corporations, was no guarantee for permanent improvement; these bodies were ever competing for licentiates, and were exposed to the deadly temptation of lowering their standards of education to attract more graduates. Against this crying evil, there was but one remedy — a single gate by which all should enter the profession; a single but searching examination for the license to practice." The evil of having a score of institutions, each granting diplomas or licenses to practice, and each pecuniarily interested in increasing

the number of its graduates, appears to be clearly appreciated by a large majority of our British brethren. And we are glad to see that their Association contends firmly and vigorously for the only efficient remedy; namely, the formation of a single, independent board of examiners. Their position, with any argument brought to sustain it, applies with even greater force to the condition of things in our own country. So long as we have thirty or forty colleges or schools, issuing diplomas which are recognized as licenses to practice, so long will the competition for larger classes, entirely prevent the adoption and maintainence of a proper standard of attainments, either preliminary or medical.

We were fully satisfied with the correctness of this position nearly thirty years since, when discussing the subject in the Medical Society of the State of New York. And all our observations in the American Medical Association, and in the Conventions of Delegates from Medical Colleges, have only served to strengthen our convictions.

All admit that we ought to have a higher standard of preliminary requirements before young men are permitted to enter upon the study of medicine. All equally admit that the method of pursuing medical studies in the schools (with one or two exceptions) is destitute of any consecutive order, too limited in time, and in many instances too limited in facilities for clinical observation. Yet so potent and universal is the idea that a large part of the students of medicine will attend such schools as will give them a diploma in the shortest time, and with the least attention to either literary or professional qualifications, that the schools of no one city dare to add a month to the length of their lecture term, or exact any adequate preliminary qualifications, &c., lest the schools of neighboring cities should reap advantages by keeping their time and requirements less. It is thus that the union of the teaching and licensing in the same institution, operates as a constant and almost insuperable barrier to any noted improvement in the education of the profession. The sooner the profession, both in England and America, devise a method by which admission into the ranks of the profession shall depend on a full examination by independent boards, leaving the schools to compete with each other solely on the basis of their merits as teaching bodies, the sooner will the great evils and defects in medical education be remedied.

Opening of the Medical Colleges.—An unexpected delay of a few days in the issuing of this number of the *Examiner*, enables us to add a few words in regard to the opening of the Medical Colleges in this city. The Rush Medical College opened its session on the evening of the 28th of September, with an introductory from Prof. Morse on the Mind. The Lecture-room was well filled, and the number of students in attendance nearly the same as at the opening of former sessions.

The Chicago Medical College opened its Twelfth Annual Course of Instruction in its new building, on the corner of Prairie Avenue and Twenty-Sixth Street, on the evening of October 3d. The spacious Lecture-room was well filled with an audience of gentlemen and ladies, in addition to the students. The introductory lecture was delivered by Prof. H. A. Johnson, and as the completion of the new building, with the permanent connection of the institution with the Mercy Hospital on the one hand, and the Northwestern University on the other, marked an era in the progress of the College, the lecture was largely historical. It was listened to with marked attention, and we hope to give it to our readers in full in the next number of the *Examiner*. The number of matriculants in the College, at the opening, was nearly double the number that had been registered at the opening last year.

The Woman's Hospital Medical College opened its first College Term on the evening of the 4th inst. The exercises were held in the Clark Street Methodist Church. The introductory lecture was delivered by Prof. W. H. Byford, and was listened to by a large audience. What the prospects are for a class we do not know.

Strychnine as an Antidote for Chloral Poisoning.—At a meeting of the Berlin Medical Society, in November, 1869, Dr. Liebreich communicated the result of his experiments in search of an antidote for chloral poisoning.

His investigations have not been directed to the discovery of a neutralizing agent for chloral while it remains in the aliment-

ary canal, but after it had entered the circulation. The primary action of chloral being upon the brain and spinal cord, and its secondary upon the heart, he had sought for a remedy which had its immediate effect upon the latter organ.

It occurred to him that strychnine might meet this indication, which increased the force of the systole and lessened that of the diastole, the reverse effect of chloral. Experiments upon animals had confirmed its antidotal properties; its efficacy, however, being restricted to the profounder states of chloral asphyxia.

If merely hypnotic doses of chloral be given to an animal, the administration of strychnine will induce the usual tetanic phenomena. This does not occur where the dose of chloral has been sufficient to affect the function of the spinal cord.

The fact was shown by the following experiments: A fatal dose of chloral was given to a rabbit, and death shortly ensued. The same quantity was given to a second, but as the respiration began to flag, a fatal dose of strychnine was injected (hypodermically). It soon roused from stupor, and perfectly recovered. Two days afterward the same quantity of strychnine was again given, and death occurred in fifteen minutes. He therefore advises its use where the life of the individual is threatened from over-doses of chloral, at the same time employing the ordinary irritants and excitants.

During the discussion which followed the reading of the report, Dr. Von Langenbeck suggested that it would be difficult to determine the quantity of strychnine to be used subcutaneously in asphyxiated states from either chloroform or chloral.

Dr. L., from his experiments on animals, estimates the dose at about 10 milligr. for adult individuals.—*Memorabile Heilbronn, March, 1870.*

Reproductions of Limbs.—M. Philippeaux has proved for fish what he already demonstrated in the case of newts, *viz.*, that when the limb is removed below the scapula or ilium, it is reproduced. But when the scapula or ilium is removed, no reproduction takes place.—*Monthly Microscopical Journal.*

SOME CORRECTIONS.

ZANESVILLE, OHIO, *September 6, 1870.*

PROF. DAVIS:—For the general accuracy of statement in your review of my fasciculus on "The Bromides," please accept my thanks; but you have fallen, inadvertently, no doubt, into several errors, which please allow me to correct.

You state that I am carrying out the train of thought in my published papers prominently enunciated by Prof. Huxley. This is a mistake, both of fact and chronology. My classification of therapeutic agents, based on the repair and waste of the tissues was first announced in a critical study of "Alcohol, as Viewed by the Eye of Science;" communicated, as a valedictory, to the Muskingum County Medical Society, May 1, 1867; afterwards published in *The Medical Archives*, St. Louis, June, 1869. The valedictory for 1868, on "How do Medicines Produce their Effects?" was a further elaboration of life from a physical basis, published in the St. Louis *Medical Reporter*, for December 15, 1868. That on "The Bromides," was read as a valedictory, May 5, 1869, and published, as you state, in the New York *Medical Journal*, for July, 1870.

Prof. Huxley's lecture on "Protoplasm," or "Physical Basis of Life," was delivered in Edinburgh, November 18, 1868; and was first published in London, in *The Fortnightly Review*, for February, 1869. Near the close of April, 1869, and just before the memoir on "The Bromides" was delivered, I saw a notice of Prof. H.'s lecture in *The Book Buyer*, in Mr. Welford's London letter. Though it had already appeared in *Every Saturday*, in Boston, I did not know it for several months after. An abridgment of it first met my eye in *Appleton's Journal*, May 15, 1869, ten days after the paper had been read to the Society. The words, or sentence, physical basis of life, as used in it, are in a wholly different sense from that in which Prof. H. uses them in his lecture.

I have no desire to detract anything from the well-earned laurels of Prof. H.; but truth compels me to say I derived

* *Chicago Medical Examiner*, September, 1870, p. 584.

no aid from any of his published papers, and I never saw or corresponded with him; and, if I understand him, he regards what we call "life," as a property of matter, which is certainly not the teaching of any of my published papers, as the diagram in that on "The Bromides" demonstrates.

Placing me, therefore, as a follower of Prof. Huxley is a mistake of fact, and, as I here show you, the identical views contained in my paper on "The Bromides" were published in this country nearly a year before the delivery of his lecture on "Protoplasm," in Edinburgh.

Again, you state that my conclusion is that the bromides are applicable "to the treatment of such cases only as are accompanied by the retention of '*surplus material.*'" My statement was the retention of *effete matter*, between which and a mere surplus, there is just the difference between life and death, no more and no less.

A future exact science of life and therapeutics must grow out of what we call physical science, and no basis of therapeutics can be more simple or exact than one based on the supply and waste of the tissues, as it is in them, force is, so to speak, stored up. Nor can any basis of physiology be more exact and simple than that which bases normal function on normal forms, and molecular changes in the material of the forms of the tissues; nor of pathology, or loss of form, or increase or decrease of the velocity of molecular changes in the material of forms; seeing that these are the absolutely naked scientific conditions of life.

Whatever may be my merits or demerits in this connection, they must rest on the practical application of physical and chemical law in actual clinical medicine, and from several year's experience, I find it so much simpler, as well as so much more certain, it must be nearer right than that now in use by the profession.

I hope, before the close of the year, to submit you a report of a clinical case, managed in accordance with life from a physical basis, and therapeutics from supply or repair and waste of the tissues, for insertion in *The Examiner*. Very truly yours,

Z. C. McELROY.

The Stetho-Sphygmograph. By T. Hawksley, M.D., M. R.C.P.—At a meeting of the Medical Society of London, on Nov. 8th, Dr. Hawksley read a paper on the "Stetho-Sphygmograph," as an aid to the physiological and pathological investigation of the functions of respiration and circulation. He exhibited the practical application of the instrument on a case of phthisis pulmonalis, and one of well-marked mitral regurgitation. In every case three simultaneous and synchronous tracings of moving organs are taken—as, for example, the two lungs and the radial pulse; or the heart, the radial pulse, the carotid, or the femoral. It was shown that the tracings would show any disparity in the action of the two lungs, also the relation of inspiration to expiration; and, associated with the pulse tracing, it afforded the opportunity of observing, not only the peculiarities or modifications of the circulation, as in the case of Marey's sphygmograph, but in addition, their relation to the respiratory process. By aid of this instrument, any question as to relative time in the transmission of the blood-wave through the arteries may be solved; as, for example, the time occupied in transmission to the radial, the carotid, or the femoral artery. This may be found to have important connection with the diagnosis of aneurisms and tumors, as well as with diseased states of the arteries with chronic diseases of organs.—*Lond. Lancet.*

Chloroform in the Treatment of Biliary Calculi. By John Barclay, M.D., Physician to the Infirmary, Leicester.—Seeing some reference in a contemporary periodical to the proposed use of chloral as a solvent of biliary calculi, I crave space to state that I have met with very great success from the internal administration of chloroform in that disease.

I first used it in 1861, in the case of a clergyman, aged 58. He had suffered for twenty-three years from gall-stones; the peculiar pain, jaundice, with subsequent discharge, by stool, of the calculi, coming on so suddenly and without warning, as seriously and frequently to interfere with his duties. Just then, writing on alcohol, I had been studying the experiments of Lallemand and others on the existence of alcohol unchanged in the blood. Knowing that ethers are solvents of cholesterine, I ventured, on his third attack in that year, to prescribe chloroform in doses of two or three drops, three or four times a day, on the chance of its reaching the calculi through the blood. To his surprise and my gratification, pain, tenderness, distention and jaundice disappeared together, and in the eight years since elapsed, he has never had another attack. He keeps a bottle

of "chloric ether" by him, for occasional use. I have found it to give invariable and permanent relief in many instances since.

The theory of thus dissolving the calculi *in situ*, followed by the disappearance of the symptoms, leads to a deduction that may be legitimate, that relief was obtained by their being so dissolved.—*British Medical Journal.*

A New Vesicant.—In a recent number of the *Journal de Chimie Medicale*, M. Delpech calls attention to the defects of the ordinary preparations of cantharides; the proportion of the active agent, or cantharidin, varying, the presence of fatty or oily substances sometimes causing the absorption of a dangerous poison, and the rosin or turpentine employed in the composition of the plaster being an unnecessary irritant. In place of this, he recommends the cantharidinate of potash, which is of a very stable composition, has no odor, and possesses a vesicant action in a high degree. He recommends as the best formula for the plaster:—Gelatin, 2.09 parts; water, 10 parts; alcohol, 10 parts; cantharidinate of potash, 0.20 part; glycerine, 9.5 parts. The mass should be equally spread on thin gutta percha, a definite quantity being present in each square inch.—*Lancet.*

The Value of American Hemp.—Dr. H. C. Wood, Jr. has written an essay which he read before the Amer. Phil. Society, in which he records some experiments with an article of hemp grown in Kentucky. He took an alcoholic extract made from the dried leaves, swallowing at a dose nearly all the product of an ounce and a-half of the leaves, with the effect of profound hemp intoxication. It proved to be toxic in its power, although he recovered himself in a day or two. He had all the exuberant hilarity usually experienced from the hemp, followed by a feeling of fear of impending death; this took so deep a hold on him that it was impossible to shake it off.

Other trials he has made with it convince him that it has more power than that brought from India, on one occasion four times the dose of the latter failing to produce the effect of the Kentucky specimen.

He has his extract made from a tincture, removing certain inert matters by an alkali; he intimates the hope that in the present revision of the U. S. Pharmacopœia the *ex cannibis purifactum* may be replaced by a preparation to be called *Resena cannibis*, and to be made by precipitating the concentrated tincture by water rendered strongly alkaline by soda of potash.

The native plant if used will always be more reliable than the imported, from the certainty of freshness, while the cost of it is hardly anything.

Mortality for the Month of August, 1870.

Accidents, by chloroform	1	Diabetes Mellitus	1	Liver, organic disease & dropsy of	1
" solution of potash	1	Diarrhœa	55	Lungs, congestion	5
" shooting	1	" chronic	10	Measles	2
" by team	1	" & complications	11	" & complications	2
" drowned	11	Diphtheria	17	Metro peritonits	1
" by fall	3	Dropsy	2	" & puerperal	3
" railroad	4	Dysentery	40	Meningitis	7
Anasarca	1	" & paralysis	1	" & erysipelas	1
Apthæ	2	" acute	1	" cerebro-spinal	4
Apoplexy	1	" chronic	4	" tubercular	5
Abscesses scrofulous	1	" typhoid	6	Meritis & overitis	1
Anæmia	1	Entero-colitis	6	Old age	11
Aortic valves, ossification of and hyperthrophy of heart	1	Enteritis	15	" and dropsy	1
Births, premature	7	Exhaustion following ligation of artery	1	Paralysis	4
Births still	46	Fever, congestive	3	Peritonitis	6
Bowels, ulceration of	1	" puerperal,	5	Pneumonia	11
Brain, congestion	10	" remittent	4	" bronche	1
" inflammation	18	" scarlet	16	" typhoid	2
" effusion on	1	" " complications	3	Pyæmia	2
" softening	1	" " malignant	2	Scrofula	1
" and hemiplegia	1	" typhoid	38	Small-Pox	1
Bronchitis	8	" typhus	2	Spine, paralysis	1
" capillary	1	Gastro-Enteritis	6	Stomatitis	1
Cancer of liver	1	Heart, disease of & albuminuria	1	Stomach, traumatic inflammation	1
" orbit	1	" dropsy of	1	Suicide by arsenic	1
" pylorus	1	" valvular disease	4	" " laudan'm	1
" rectum	1	Hepatitis, chronic	2	" " morphine	1
" tongue	1	Hip disease	1	" " shooting	1
" stomach	3	Hydrocephalus	23	Tabes mesenterica	51
" " uterus	2	" acute	6	Teething	26
Cholera Infantum	277	" chronic	1	" & complications	20
" morbus	6	Hydro-peritonium	1	Throat, malig't sore	1
Consumption	44	Inanition	25	Trismus	2
Convulsions	82	Intemperance	2	Uterus, inflammation	1
Croup	10	Icterus	1	Urethra, stricture	1
" membranous	3	Kidneys, Bright's disease	2	" rupture of & extravagasation of urine	1
Cynanche tonsillaris	2	" organic disease of & dropsy	1	Whooping-cough	14
Development deficient abdomem	1	" & liver tuberculosis	1	Total	1033
Debility, general	9	Laryngitis	1		
Delirium Tremens	1				

COMPARISON.

Deaths in Aug., 1870, 1033 | Deaths in Aug. 1869, 1072 | Decrease, 39
Deaths in July, 1870, 1120 | Decrease, 87

AGES.

Under 1	471	10 to 20	30	70 to 80	15
1 to 2	223	20 to 30	75	80 to 90	3
2 to 3	44	30 to 40	46	Unknown,	1
3 to 4	22	40 to 50	40		
4 to 5	9	50 to 60	24	Total,	1033
5 to 10	21	60 to 70	9		

Males, ----------547	Females, ----------486	Total, --------1033
Single, ----------885	Married ----------148	Total, --------1033
White, ----------1022	Colored, ---------- 11	Total, --------1033

NATIVITY.

Atlantic Ocean -----	1	England ----------	20	Nova Scotia--------	1
Bohemia ----------	9	France ----------	1	Switzerland --------	1
Canada ----------	2	Germany ----------	75	Scotland, ----------	7
Chicago, Native ----	144	Holland----------	4	Sweden----------	7
Chicago, Foreign ---	577	Ireland----------	62	Unknown ---------	4
U. S., other parts ---	99	Isle of Jersey ------	1		
Denmark ----------	1	Norway ----------	17	Total, ----------1033	

MORTALITY BY WARDS FOR THE MONTH.

Wards.	Mortality.	Wards.	Mortality.
1	11	18	70
2	20	19	17
3	36	20	23
4	18	Accidents	22
5	35	County Hospital	15
6	92	Convent Good Shepherd	1
7	81	Home for Friendless	5
8	91	Hospital Alexian Brothers	6
9	82	Immigrants	17
10	17	Mercy Hospital	7
11	34	Erring Woman's Refuge,	1
12	35	Protestant Orphan Asylum	3
13	20	St. Joseph Orphan Asylum	10
14	25	Suicide	4
15	98		
16	62	Total,	1033
17	75		

A GOOD CHANCE FOR A GOOD PHYSICIAN.

I wish to dispose of my house and two lots in the village of Two Rivers, with a good village and country practice. Said lots are conveniently and pleasantly located, and have a good house, barn, and other improvements. For particulars and reasons for wishing to sell, address,

C. C. CROCKER, M.D.,
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THE

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ARTICLE XXXIV.

A LECTURE, INTRODUCTORY TO THE GENERAL COURSE IN THE CHICAGO MEDICAL COLLEGE, FOR THE SESSION OF 1870–71.

By H. A. JOHNSON, M.D.,
Professor of Diseases of the Respiratory and Circulatory Organs.

What is meant by the study of medicine? How should it be pursued? What helps do medical colleges generally afford? What are the peculiar aids afforded by this institution? Such, gentlemen, are the questions that must have engaged your thoughts heretofore, and that, almost of necessity, present themselves on this occasion.

WHAT IS THE STUDY OF MEDICINE?

In answer to the first question, it may be stated, in brief, that medicine, in the more general sense of the term, is made up of pure science, and applied science, or art. It is broad in its relations, and, for its apprehension, an important prerequisite is a good, liberal, scientific, and, if possible, literary education. The success or failure of men in the profession depends much more upon this general preparation for special work than is usually supposed. By the study of medicine, we mean, first, the study of those sciences that have to do with the human

organism; the structure, chemical composition, and uses, of its parts, together with the forces, both physical and those, which, for want of a better term, we call vital, that seem to belong to its forms; or, in the words of a modern formula, the modes of motion therein observed. To these subjective studies must be added a careful investigation of all those influences, or agents, that, acting from without, impress, for good or evil, the mechanism of life. This first department of study embraces anatomy, physiology, chemistry—inorganic and organic, general pathology, etiology, hygiene, the general principles of cure, and the natural history and properties of drugs. The second department of study consists in the application of the facts embraced in this first group. In other words, it is applied science. It includes the study of special diseases, with reference to their cure, or relief, by the control or modification of the modes of motion within the body, or of influences acting upon it from without. It is made up of what are usually termed the practical branches, or the principles and practice of medicine, surgery, and obstetrics—the principles usually taught in didactic lectures; the practice best taught at the bedside of the patient.

HOW SHOULD THIS STUDY BE PURSUED?

From this brief statement of the subjects of study, it must be evident to you, gentlemen, that, in the order of time, the facts must be learned first; afterwards, their application. The more distinctly scientific studies must precede those which are mixed in their character (being both science and art), and which often present problems more difficult than any which are found in the domain of purely physical science. That they so frequently remain unsolved is, because our knowledge of the precedent facts is so limited.

The best method, or rather order, of study suggested by this examination of the subjects to be investigated, is a matter, gentlemen, of the utmost importance. The student of Greek would hardly attempt to write Greek poetry without having first studied Greek roots, and thoroughly mastered the grammar of the language. One may *guess*, perhaps, the solution of a problem in applied mathematics, but he will not be likely to know

much about it, unless he has first, by patient study, possessed himself of the fundamental principles of the science. The architect may have some idea of beauty of proportions and fitness of forms, but cannot, safely, be trusted to design and superintend the erection, or repairs, of an important structure, unless he has first learned the weight and strength of his material, the direction and quantity of resultant forces, with many other facts in physical science that are directly concerned in his art-work. The order of study, in these supposed cases, is progressive, each subject occupying, in the order of time, the position, which, in the order of science, it logically sustains to every other subject of investigation. There is no good reason why medical studies should not be pursued in the same way; in fact, such is the case now everywhere, except in our own country.

WHAT AID DO THE COLLEGES GENERALLY AFFORD?

The colleges organized anterior to the war of independence were, for the most part, under the control of men who had been thoroughly educated in the schools of Europe. The preliminary and professional attainments required were of a high order, and the degree of doctor in medicine conferred upon only the very few who had afforded the most satisfactory evidences of proficiency. These schools were intended to *educate* the pupil—to discipline his faculties, as well as to enrich his memory; to develope his powers of reasoning, and to prepare him to successfully grapple with the problems of practical therapeutics.

The number of pupils, however, in attendance, was limited. The larger majority of physicians were unable, or unwilling, to avail themselves of the advantages offered by these institutions located in New York and Philadelphia.

In most instances, the education of the pupil was received in the office of the preceptor, who directed the subjects and order of study, and, after the acquisition of a limited knowledge of the elementary branches, permitted him to see cases, and, finally, to prescribe independently, or, in other words, admitted him to practice. This education was, necessarily, sadly deficient, for the want of the means of illustration, and, in too many instances, from the incompetence or indolence of the instructor.

At the end of three or four years, however, the student had obtained, at least, a superficial knowledge of most of the subjects at that time embraced in the curricula of the medical schools of the Old World. The first medical schools established in this country, subsequent to the war of independence, seem to have had quite another purpose. They were intended simply to supply the deficiencies necessarily connected with private teaching. Their germs, so to speak, consisted of lectures on anatomy, to which were subsequently added brief courses on other departments of study, until the college was finally developed. They were intended quite as much as, or, perhaps, more for the practitioner than for the student. The courses were short, usually only thirteen weeks, and the whole field of medicine, surgery, and obstetrics, was passed rapidly in review, rather than carefully considered and taught in detail. The *studies* of the pupil were still supposed to be performed in the office of the preceptor, and the college resorted to for the purpose of refreshing the memory.

It is true, students were received at the very commencement of their period of study, but such usually went out after one course of lectures, and commenced practice, occasionally returning, a few years later, to listen to a repetition of the same course, and receive the degree. The gray-haired veteran, who knew almost nothing of the science of medicine, and the beardless boy, who knew absolutely nothing of the practice, sat side by side, and listened—the one laboriously endeavoring to correct his previous mistakes by placing a foundation beneath his shabby building, and the other, with still more embarrassment, if possible, striving to erect, simultaneously, both foundation and superstructure. During this present century, great changes have been made in our material, intellectual, and social condition. Higher attainments are demanded in all the professions, but especially in that of medicine. Contributions have been brought to it from every department of science. It has been continuously enriched by new truths. By a judicious division of labor, men peculiarly adapted to special studies and practice, have improved its methods and corrected its fallacies. The

cords of its tent have been lengthened, and its stakes strengthened; but, with few exceptions, the colleges are to-day what they were in the infancy of the Republic. Amid all these changes in other departments of education, they alone seem to say *non possumus.* It is true, some of them have extended the terms of lectures; a very few, only, have increased the number of professorships, and have added to their means of illustration, but the system is still based upon the hypothesis—at the present day, only an hypothesis, that the college-lectures are simply a review of what has already been made the subjects of study in the office, or that the pupil is getting a hasty and imperfect preparation for a period of practice, after which he will return and refresh his memory.

It is possible, that in the last quarter of the eighteenth century, when but few could spend the time or means necessary to a thorough preparation, but when many could devote a few weeks to a hasty review, this method of college instruction might have been admissible; but, in the last half of the nineteenth century, when physicians, receiving pupils into their office, assume little responsibility for their studies, seldom directing their reading, or, in fact, doing anything more than to furnish a few antiquated text-books, and, perhaps, a dilapidated skeleton, while the student, if not very conscientious, amuses himself by reading what taxes the least his mental digestion, whether it be "Gray's Anatomy of the Human Body," or "Burton's Anatomy of Melancholy,"—pathological anatomy, or pathological psychology—always looking forward to the college as his educator, and considering the office as a cheap and convenient, if not agreeable, sojourn for the required three years; in this age, and in this country, where we especially boast of our improved methods of education—where our public schools are graded—where, in our literary and scientific institutions of a higher order, the pupil advances step by step—where, in our professional schools, legal and theological, there is method in the arrangement of studies;—under all these circumstances, with all this new condition of things around us, this inertia of the medical schools—their persistance in the at-

tempt to teach the same truths to those commencing, and those completing, their education; to the tyro just learning to pronounce his anatomical alphabet, and to the applicant for the doctorate, is worse than an anomaly—is worse than an absurdity even; inasmuch as it encourages a contentment with superficial attainments, thereby diminishing the proficiency of the profession, it is a crime against humanity.

These defects in our methods of education have been recognized by the profession, and, for the last thirty years, medical societies and prominent medical men have protested against them. The American Medical Association has repeatedly called for reforms, and the faculties of the colleges have almost unanimously admitted the justness of the complaints and the propriety of some change in the curriculum of study. There is almost no one to defend the old order of things, and yet it continues. Why it continues is no mystery to medical teachers. The principal reason is, undoubtedly, the competition between the different medical schools. It is said that students will attend such colleges as make their admission to the profession easy—as require the least work and the shortest time; and, for this reason, no one institution had, up to 1859, dared to establish a progressive course of study. In illustration of the general feeling on this subject, I take the liberty of citing a portion of the history of one of the institutions of our own city. In the year 1857, the faculty, by, if I remember rightly, a unanimous vote of all present, (one member only being absent), decided to adopt a curriculum of study, extending through two years, dividing the subjects into two departments, to be called junior and senior, and requiring students attending their first course of lectures to enter the junior department, made up of the elementary branches, and those attending their second course of lectures to enter the senior department, composed of the practical branches. The adoption of this plan by a formal vote of the Faculty, after mature deliberation, was, in itself, a recognition of the imperfections and inconsistencies of a system, that whatever might have been its utility at an earlier period in our history, had become effete. This wise measure, however, was

never put into operation. The President of the College admitted the propriety of the change, believed that it would make better physicians, but expressed a fear that students would be repelled by the increased labor imposed and higher attainments exacted. In deference to this apprehension, without any reconsideration of the vote, the old method was continued, and no improvement has been made, I believe, up to the present time. Other medical teachers privately expressed themselves as heartily tired of the prevailing system, if indeed it be a system, but were restrained from attempting reforms by the same considerations—a fear that their pupils would seek for their diplomas in competing schools, where the labor was less, and the standard consequently, lower. In the conventions of medical colleges that have been held in connection with the American Medical Association, there has not been a single reason urged for the existing order of things. The only apology offered in its defence is, that it has made good physicians. The fact is, the schools do not make physicians, but they help individuals, more or less, to qualify themselves for the office, and the better the help, the easier the qualification is obtained. Men have become good mechanics without masters, able lawyers without instructors, eloquent divines without professors, and skilful physicians without preceptors, but these examples by no means constitute a reason why the best aids to excellence in these several departments of effort should be ignored or neglected. Notwithstanding a very general admission of failures by those interested in teaching, no action has been had, because each school feared that its neighbor would not come up to the standard. The members of the profession at large, represented in the National Association, have, from year to year, adopted reports and resolutions, all calling loudly for a change, but they have been unable to convince the colleges that medical students were equally desirous for extended courses and classified studies. We have thus briefly alluded to the history of medical schools, and to the reasons for the anomaly they present, in order to answer the second query. It must be evident to you that the colleges generally can help you by furnishing, to a limited ex-

tent, the opportunity for study, and the means of illustration, leaving the question of the arrangement of subjects entirely to yourselves. So far as physical digestion is concerned, it is not, perhaps, a matter of much consequence, whether fruits and desserts are taken before or after beefsteak and potatoes; but, so far as mental assimilation is concerned, the order in which the subjects are presented becomes a matter of the greatest importance. The accumulation, in a desultory manner, of unclassified facts, is almost as useless as a miscellaneous unclassified collection of objects in natural history. The method generally pursued is faulty, not only in this want of order, but, also, in the effort to accomplish the impossible feat of teaching the whole of the science and the art of medicine, surgery, and obstetrics, in the short period appropriated to a single lecture-term. It may be said, in answer to this, that all the colleges require three years of study and two courses of lectures. This is true, but the second course of lectures is only a repetition of the first, and the whole field is usually looked at, a kind of bird's-eye view, in from four to five months, the student gaining some knowledge of many things, but an accurate knowledge of hardly any one thing.

WHAT ARE THE PECULIAR AIDS AFFORDED BY THIS INSTITUTION?

Convinced that something better was possible, and that at least a few medical students were ready to work for a higher standard of attainments, the founders of the Chicago Medical College unanimously determined to make an earnest effort for reform.

In the Spring of 1859, it became evident that a new medical college was about to be organized in this City, and it was possible for a few individuals to control the movement, and give direction and character to the new institution.

My own connection with the Rush Medical College had recently terminated; Professors Andrews and Hollister, who had also been connected with that institution, had previously resigned. Our experience as teachers, as well as our remembrance of our own student life, had led us to the firm convic-

tion, that these radical evils of the schools were not an absolute necessity, and we believed that the public and the profession would second our efforts for something better.

The peculiar features and relations of the Chicago Medical College must be my apology for detaining you a few moments, while I present the most important points in its history. In doing so, I shall be able to answer satisfactorily, I trust, the last of the four questions that we have proposed to ourselves this evening.

The first entry in the record book of the Faculty is as follows: "At a meeting held March 12, 1859, at the office of Drs. Rutter and Isham, the following named gentleman were present: David Rutter, M.D., Hosmer A. Johnson, M.D., Edmund Andrews, M.D., and Ralph N. Isham, M.D. It was announced in a few words by Dr. Johnson, that the object of the meeting was to organize a Medical Faculty of the Lind University, on the basis of a proposition made by the Trustees of Lind University, and submitted to the above-named gentlemen for their consideration." After a temporary organization, the proposition was considered, discussed, and finally accepted. The provisions of the agreement between the above-named and the Trustees of the University, were substantiaally as follows:

1st. That the University should furnish, for the temporary use of the Department of Medicine, rooms free of rent for three years.

2d. That at the end of three years, the University should provide a permanent building, or rooms suitable for the Department.

3d. The Faculty of Medicine to nominate, the Trustees to appoint, all professors in the Department.

4th. The Medical Professors to give the proceeds of their lectures for three years, for the purpose of procuring the means of illustration.

5th. The Faculty to meet all expenses, except that of rooms.

6th. The degrees to be conferred by the University, upon the recommendation of the Faculty.

The 7th and 8th sections relate to announcements, and pro-

vide for a report of the Treasurer of the Faculty to the Board of Trustees.

This proposition or agreement was signed, on the part of the University, by its Executive Committee, and by Drs. Rutter, Andrews, Isham, and Johnson.

At the same meeting, after the execution of the agreement, it was moved that the following professorships be established, *viz.:* Descriptive Anatomy, Physiology and Histology, Inorganic Chemistry, Materia Medica and General Therapeutics, General Pathology and Public Hygiene, Surgical Anatomy and the Operations of Surgery, Organic Chemistry and Toxicology, Medical Jurisprudence, Midwifery and the Diseases of Women and Children, Principles and Practice of Surgery, and the Principles and Practice of Medicine.

Dr. Rutter was nominated for Emerites Professor of Midwifery and Diseases of Women and Children; Dr. Johnson for the Chair of Physiology and Histology, but afterwards transferred to that of Materia Medica and General Therapeutics; Dr. Andrews to the Chair of the Principles and Practice of Surgery, and Dr. Isham to the Chair of Surgical Anatomy and the Operations of Surgery.

Drs. Johnson, Andrews, and Isham were appointed a Committee to invite Prof. N. S. Davis to accept the Chair of the Principles and Practice of Medicine, and Dr. W. H. Byford to accept that of Midwifery and the Diseases of Women and Children.

These gentlemen accepted the appointments, and subsequently participated in the complete organization of the College.

The two departments, Junior and Senior, were established, the first including Descriptive Anatomy, Pysiology and Histology, Inorganic Chemistry, Materia Medica and Therapeutics, and General Pathology and Public Hygiene; the second including the remaining branches, namely, Surgical Anatomy and the Operations of Surgery, Principles and Practice of Surgery, Obstetrics and Diseases of Women and Children, Practical Medicine, Medical Jurisprudence, and Organic Chemistry and Toxicology, with Clinical Medicine and Clinical Surgery.

These two courses were intended for students at different periods of their pupilage, and the arrangement of studies was such as to prepare the pupils in the first course, for the more practical branches of the second. This classification of the subjects of medical study, was, so far as I am aware, the first attempt in the United States, to make medical teaching conform to the methods that obtain in all other departments of education at home, as well as in all medical schools abroad.

A lecture term of five months was established. The fees were fixed at fifty dollars for each course, and examinations were required at the end of the first course, and this when the lecture term of the Rush College was sixteen weeks, and the fees thirty-five dollars. The Faculty commenced with the determination, that their inducements to students, should consist in neither short terms, nor a low standard of attainments, nor comparatively, in low fees even, but rather in their better methods and more extended range of studies. They considered medicine as a liberal profession, and they determined to strive for the broadest and most liberal culture on the part of those who should come to them for instruction.

They did not expect large classes, and were determined to make no sacrifice of principle to obtain them; but they did believe and know, that they if did not send out many graduates, those that should go forth from their halls, would be more thoroughly prepared for the work of life. How these expectations have been met, the many alumni of the College holding prominent social and professional positions, bear testimony.

The organization of the Faculty was completed by the appointment, subsequently, of Dr. J. H. Hollister to the professorship of Physiology and Histology; Dr. Mahla to the two professorships of Chemistry; Dr. M. K. Taylor to the professorship of General Pathology and Public Hygiene; Dr. Titus Deville to the professorship of Descriptive Anatomy, and H. G. Spafford, Esq., to the professorship of Medical Jurisprudence. Dr. Horace Wardner was appointed Demonstrator of Anatomy.

At a meeting of the Faculty, June 4, 1859, it was resolved, that the Faculty, through their delegates, invite the Illinois

State Medical Society to appoint a committee of two to attend the examinations of candidates for graduation in the Medical Department of the University, and *vote* upon their qualification for the degree of Doctor of Medicine. In extending this invitation, the College desired to furnish to the profession at large the means of judging of the success or failure of the method, and also to give the fullest guarantees, that with the sanction of this institution, none should be admitted to this responsible office, whose attainments were not satisfactory to those not immediately interested in teaching. This invitation was continued from year to year, but the State Society, either never made the appointment, or, if so, the committee has failed to respond.

In connection with the first course of didactic lectures, the Faculty established two Clinical professorships, to which Professors Davis and Andrews were appointed, securing to the student one lecture daily in the Mercy Hospital, at the bedside of the patient, and, also, two cliniques each week at the College, thus providing a more extended course of practical teaching than had ever before been given in the West.

The class attending this first session was small, consisting of but 33 members, of whom 9 received at the commencement exercises, the degree of Doctor of Medicine.

The Faculty had entered upon this experiment, for in one sense it was an experiment, with a firm conviction that it was the right course to pursue, they were satisfied also, that ultimately the schools must adapt themselves to the increasing intelligence and higher standards of education demanded by the community; they had, however, some misgivings as to the readiness of young men to devote to this work of preparation the increased time, and necessary expense. Among the class in attendance upon this first course of lectures, however, there was a larger proportion than at that time were usually found in medical schools, of young men thoroughly prepared by scientific and classical attainments for professional study. It was evident, then, that the better quality of students, sought, what every educated man, whose interests do not blind his judgment, admits to be the better methods.

The Faculty, therefore, were quite willing to labor and to wait.

Before the commencement of the second course of lectures, Prof. Deville, a most admirable teacher of Anatomy, resigned his professorship and returned to England. Prof. Hollister was transferred to the vacant chair, Prof. Johnson was appointed to the Chair of Physiology and Histology, and Dr. A. L. McArthur was appointed to the Chair of Materia Medica.

On the 24th of November, 1861, the Trustees requested the Faculty to release them from any obligations to furnish new rooms for the Department, but agreed to pay the rent of those they then occupied in Lind's Block for the remainder of the three years from date of the organization, as stipulated in their contract with the Medical Faculty. The financial embarrassment of the University, made this action of the Trustees, a necessity, but it was the occasion of much anxiety to the friends of the College. The Faculty, however, were not disposed to abandon their projects, but immediately made arrangements to provide for themselves.

In the Summer of 1862, Dr. McArthur resigned the professorship of Materia Medica. Prof. Taylor requested leave of absence for the coming Winter, having been appointed Surgeon of Volunteers in the U. S. Army. At his own request, Prof. Hollister was transferred to the Chair of Materia Medica, and Dr. J. S. Jewell, a graduate of the College at its first commencement, appointed to the Chair of Anatomy, and also made Demonstrator of Anatomy, Dr. Henry Wing was requested to give the course on General Pathology, in the absence of Prof. Taylor, and at the end of the course was appointed Professor.

The College continued to occupy the rooms in Lind's Block, on Market Street, during the session of 1862–3, paying to the proprietors the rent out of the College funds. In the Summer of 1863, the Faculty, by a unanimous vote, resolved to appropriate the proceeds of their lectures to a building fund, for the purpose of securing new accommodations for the institution. A contract was made with C. Follansbee, Esq., for the lot and building on State Street, recently occupied by the College. By

the liberality of one its members, the Faculty was subsequently entirely relieved from the indebtedness thus contracted. During this summer, Dr. M. O. Heydock was appointed to the professorship of Medical Jurisprudence, Prof. Spafford having resigned.

In the Spring of 1864, it seemed to the Faculty desirable, to change to some extent at least, their relation to the University. By a mutual understanding with the Trustees, each party to the contract was released from all obligations, and the members of the Faculty organized under the general incorporation laws of the State of Illinois, the Chicago Medical College, the members of the Faculty becoming the Trustees of the new body.

During this year some changes were made in the assignment of Chairs, Prof. Hollister was transferred to the Chair of Physiology and Histology, Prof. Wing to the Chair of Materia Medica, Prof. Johnson to the Chair of General Pathology and Public Hygiene.

In the Summer of 1865, Prof. Wing having removed from the City, was transferred to the Chair of Medical Jurisprudence, and Prof. Heydock to the Chair of Materia Medica and Therapeutics, and Dr. J. M. Woodworth was appointed Demonstrator of Anatomy.

During the year 1866, Dr. Daniel T. Nelson was appointed Professor of Physiology and Histology, Prof. Hollister was transferred to the Chair of General Pathology and Public Hygiene, Prof. Johnson having resigned, on account of ill-health, Prof. Patterson was appointed to the Chair of Medical Jurisprudence, made vacant by the resignation of Prof. Wing. In 1867, Prof. Mahla resigned the professorship of Chemistry, and Dr. John E. Davies was appointed to the vacancy. The Trustees created a new Chair, of Diseases of the Respiratory and Circulatory Organs, to which Prof. Johnson was appointed.

In May, 1867, there was held in the City of Cincinnati, a convention of delegates from the medical schools of the country: resolutions were passed recommending changes in the methods of study, substantially the same as those already adopted by this College; but advising four years of study, instead of three.

These propositions, no doubt, faithfully represented the opinions of those teachers when at a distance from their institutions, but they had altogether a different set of ideas, when the question was presented in its financial aspects, at home.

At a meeting held April 25, 1868, this Faculty arranged three courses of lectures consisting of groups of subjects or studies, for each of the three years of pupilage. Up to the present time, however, while recommending the student to attend one course during each year, it has not been found practicable to *require* this as a condition for graduation.

These three courses of lectures, not repetitions, the one of the other, but separate, distinct, and successive, constitute a more complete and extended curriculum of study, than that adopted by any other college in the United States.

During the year 1868, Prof. Davies resigned the Chairs of Chemistry, and Dr. C. Gilbert Wheeler was appointed to the position thus made vacant. The late Dr. Joseph L. Hildreth was invited to deliver a course of lectures on Ophthalmology and Otology, the Chair of Public Hygiene was detached from that of General Pathology, and Dr. Thomas Bevan appointed Professor.

During the year 1869, changes were also made in the Faculty, Prof. Jewell having resigned, Dr. H. W. Boyd was appointed Professor of Descriptive Anatomy; Dr. E. O. F. Roler was appointed an additional Professor of Obstetrics and Diseases of Women and Children; Dr. J. S. Sherman was appointed Adjunct Professor of the Principles and Practice of Surgery; Dr. Woodworth resigned the position of Demonstrator of Anatomy, and Dr. Thomas Bond was appointed to that office.

During the same year, an arrangement, mutually satisfactory, was made with the Northwestern University, by which the Chicago Medical College, became the Medical Department of that institution, its own organization, control of professorships, and of the curriculum of study remaining unchanged. The ground occupied by the present building, belonging to the proprietors of the Mercy Hospital, had been previously secured for the use of the College. By the terms of the contract between the

Trustees and Hospital authorities, the Faculty of this Institution became the medical officers of the Hospital, and are required to give in its wards, such clinical instruction as the interests of the College demand; the services of these medical officers to be considered as payment in full for the ground-rent of these premises, for at least twenty years, and so much longer as the adjacent building shall be occupied for hospital purposes. It is believed that the interests of both parties to this contract, is met in the permanent relations thus established. The material result of these arrangements with the University, and the Society owning and controlling the Hospital, is the elegant and convenient building, in which we are to-night, for the first time, assembled. It is not only architecturally attractive, and admirably adapted to medical teaching, but its location and relations to the Hospital are such, that for all practical purposes, that institution becomes a part of the college organization. Each Didactic Chair has its corresponding Clinical Chair in the Hospital, where the theories of the lecture-room are daily tested at the bedside of the patient. In this respect, also, it differs materially from most medical schools of this country, and, to the same extent, approximates in its means, as well as in its modes of teaching, the best institutions of the old world.

During the present year, the corps of instructors has been still further increased; Prof. Wheeler has resigned the two professorships of Chemistry, and the Trustees have appointed Dr. N. Gray Bartlett to the Chair of Inorganic and Practical Chemistry, and Dr. H. P. Merriman to the Chair of Organic Chemistry and Toxicology. In consequence of the large and increasing number of pupils engaged in the study of analytical chemistry, this division of the work had become absolutely necessary. A Chair of Diseases of the Eye and Ear has been definitely established, and Dr. Samuel J. Jones appointed Professor. Prof. Jones is now in Europe, or on his way home, and, with all desirable means of illustrating his department, will commence his course on the first of November. Prof. M. O. Heydock has resigned the professorship of Materia Medica and Therapeutics, and Dr. Wm. E. Quine has been appointed to the vacancy.

Since the organization of the College, eight hundred and eighty-nine (889) students have been in attendance upon its lectures, and two hundred and eighty-nine (289) have received the degree of Doctor of Medicine. Six of its Alumni are now members of its own Faculty, and several hold similar positions in other institutions.

From the period of its inception to the present, it has been both growing and developing. For the last eighty years, other medical schools have only grown. Almost nothing has been added to the number or perfection of their organs. In their relation to the times, and the intelligence of medical students, they are sadly out of joint—a kind of compound dislocation. In the number of teachers, and breadth of study, hardly a change has been made. The increase in the lecture-term, from three to four or five months, constituting, with very few exceptions, the only improvement during the last three-quarters of a century.

At the time of the organization of this College, the number of lectures, comprising the entire course of instruction in the Rush Medical College (and I refer to it because it is a fair representative of the medical colleges of the country) was five hundred and seventy-six (576). The number in the entire course of this college was at the same time one thousand and eight (1008). At the present time, the number constituting the entire course of medical instruction in the Rush Medical College, remains substantially the same, while the entire course in this institution is thirteen hundred and eighty (1380), an increase of three hundred and seventy-two (372) lectures. In other words, the amount of teaching given by the Faculty of this College is about two and one-half ($2\frac{1}{2}$) times as much as that given by the majority of the medical schools of the country, while in the enlargement of its corps of teachers, and the still further classification of the subjects of study, it has spared no effort to adapt itself to the constantly increasing culture and higher scientific attainments of the times.

We have thus rapidly traced the history of this school for the purpose of showing to you, gentlemen, that it can help you in

your work of education more than other colleges by presenting to you, first, more truths and more facts, and, second, by presenting them in a better order—not, as the printer would say, a mass of type set in "pi," but set in up form, corrected, and ready to give a perfect impression.

In view of all these facts, we think we may justly claim for this College the confidence of the public and the profession. Its Faculty and Trustees have earnestly labored for the honor and usefulness of our noble calling. They have not been deterred by the ridicule or misrepresentations of those who could not appreciate honest effort, and to-day, entering as they do upon a new era in their history, one so full of encouraging promise and comforting vindication, with a better knowledge of the wants of students, and of the best methods at home and abroad, with enlarged appliances and means of illustration, affording opportunities for clinical study and for experience in practical chemistry unsurpassed anywhere upon this continent; they offer to you, gentlemen, a cordial welcome. Welcome to these halls where science shall place a sure foundation for the temple of your art. Welcome to all that we can do for you as teachers, as counsellors, as friends. Welcome, also, to yonder Hospital, where you may study the perturbed motions of the soul's most wondrous engine—where your hearts may be touched with sympathy as you listen to the wail of its broken harp, and learn how most surely and tenderly you may repair its disordered mechanism—tune again its discordant strings, and fill all the halls of being with the sweet harmonies of healthful, vigorous life.

ARTICLE XXXV.

VARIOLA.

BY EDWIN A. CARPENTER, M.D., Baileyville, Illinois.

During the past winter months we had an endemic of unmodified variola. Not a case, as far as my knowledge extends, presenting variolous symptoms, where they had ever been vaci-

nated. The disease is ushered in with a well-pronounced chill, succeeded by considerable febrile movement, after which some slight perspiration takes place; the chills and fever continuing until the appearance of the eruption. Pain is referred to the epigastrium, with tenderness on pressure, with nausea and vomiting as the rule. Cephalolgia pain in the lumbar region and limbs, bowels constipated (usually), urine scanty and highly-colored; delirium is an occasional symptom. These are the usual symptoms of the stage of invasion. To be brief, I will not descant upon the different stages, except incidentally, as the main object in view is the treatment which differs from most medical writers on the subject. The mode of dying (where death takes place) is by asthenia. The question very naturally arises here, what produces this asthenic condition, is tissue metamorphosis sufficient to produce death? I think not. The urine being diminished in quantity, there remains in the economy, urea and uric acid, producing their toxicological effects; these, as well as all excretory products, are formed in the blood; they exist, therefore, in the blood in health, and it is their accumulation in an abnormal quantity which constitutes the morbid condition; the kidneys secreting so small a quantiny of urine, are inadequate to a proper elimination of this excrementitious substance, consequently, we have urmiæa, which is a form of blood-poisoning—sometimes called toxæmia, which enters largely into the ausation of the morbid phenomena, and consequently of great importance in its practical relations to variola.

Uræmia may be inferred, whenever in connection with its characteristic pathological effects, the secretion of the urine is suppressed, or the quantity greatly diminished. The symptoms during the stage of invasion, are indicative of congestion of the kidneys, if not of nephritis, *viz.:* pain and tenderness in the loins, pains in the abdomen, urine scanty and highly-colored, and sometimes frequent attempts at micturation. We are advised by most medical writers, to omit the use of active cathartics, but as the kidneys are inadequate to a proper elimination of urea and uric acid, what better mode of vicarious elimination than by the intestinal canal? Put the disordered kidneys at rest

by causing the intestinal canal to perform their office as far as may be, and in conjunction with, elimination by the skin, their office can be performed effectually in variola, at least, all things being taken into consideration, hydragogue cathartics are a necessity for the welfare of our patient. I prefer *elaterium et podophyllum*, purging the patient freely, then, unless the pains in the head, *epigastrum*, and lumbar region are mitigated, give a hot-air bath until copious perspiration is produced, after which the recipient will feel like a different being; in all probability the affected will not be obliged to keep the recumbent posture until the suppurative stage supervenes; with the change of the eruption to pustules, there is a recurrence of the febrile movement, constituting what is known as the suppurative fever; the pulse is increased in frequency, perspiration ceases, the temperature is increased, etc.; we now have another blood-poison to deal with, caused by the absorption of pus, if skin, kidneys, and bowels are in a morbid condition, they soon eliminate the morbid matter, if not, eliminants are necessary to arouse the excretory functions of the system; where the eliminative treatment is carried out, we are rid, to a great extent, of the sequaæ of the disease, which is the result of toxæmia, *viz.:* feruncules and abcesses; at the decline of the suppurative fever quinia sulphas given as a tonic, and an eliminant, is a remedy which has proven itself peculiarly adapted to this stage of the disease.

As an ectrotic, B. T. Buckley, M.D., Freeport, Illinois, has found lime water and linseed oil (carron oil) efficient, keeping the patient in a darkened room. In my practice, I have tried a variety of vaunted remedies, but found them useless. It would not enhance the value of this article to speak of concomitant affections, alimentation, purity of atmosphere, disinfectants, etc. I wish to call the attention of the profession to the *blood-poisoning*, believing, as I do, that the retention of the effete matters causes death in variola. The foregoing is the theory on which I based my treatment in twenty cases (all I had) of the distinct and confluent varieties, ranging from 6 to 74 years of age. Not a single case resulted in death, neither was the sight or hearing impaired in a single instance.

ARTICLE XXXVI.

A RARE FORM OF CARDIAC DISEASE.

BY N. S. DAVIS, M.D., Etc., Etc., Chicago.

[Presented to the Chicago Medical Society.]

Mr. S., aged about 26 years; American; married; applied to me for advice six or eight months since. He was spare in flesh, anemic in appearance, yellow or jaundiced in the color of the skin and conjunctiva; and complained of indigestion; general muscular weakness; shortness of breath on attempting to exercise; irregular pains in the right hypochondriac region; and occasional sharp pains in the region of the heart. His bowels were irregular, sometimes loose and at others costive; urine scanty, dark brown, and often mixed with blood. Physical exploration revealed no evidence of disease of the lungs, or enlargement of any of the abdominal viscera. The rythm of the heart was normal, but the first sound was accompanied by a peculiar *flap*, a quality not easily described. It differed from the bellows sounds that accompany either extreme ænemia, or valvular roughness. The systole was short and quick, with a occasional intermission. He had completed a Collegiate and Theological course of study, supporting himself by teaching music. While making some physical exertion in the open air, at the age of 12 years, he suddenly fell as though seized with spasms. But the general failure of his health was not much manifest until he was in the midst of his studies in College and teaching at the same time; and hence the failure had been attributed to over-tasking himself, both mentally and physically. By proper regulation of diet and exercise, aided by mild tonics, the functions of the stomach and kidneys were much improved, and he continued to attend to some business until about the first of August, 1870. He was then attacked with symptoms of dysentery, coupled with a few paroxysms of intermittent fever, which appeared to greatly prostrate him, and all efforts at exercise were attended with palpitation, shortness of breath, sense of exhaustion, etc., with momentary severe pains in his chest.

A few days treatment relieved the fever paroxysms, and improved the state of the bowels, but he continued very week, and the action of the heart quite irregular, with some œdema and coldness of the extremities. While in this condition he was attacked with copious hemorrhage from the bowels, which proved speedily fatal.

Twenty-four hours after death a *post mortem* examination was made by Prof. H. W. Boyd, assisted by Dr. Ward and a Student. They reported no morbid appearance in the viscera of the abdomen except congestion, and perhaps slight softening of portions of the mucous membrane of the ilum and colon, and increased vascularity, with some fatty degeneration of the kidneys. The liver and spleen were reported healthy and of normal size. The lungs appeared healthy except numerous deposits of dark pigmenty matter in the upper and anterior parts. The heart was about the natural size, pale in color, with a little more accumulation of fat over its base than usual. On cutting through the walls of the ventricles the muscular structure was found thinner and paler than natural on both sides, but more especially was this the case in the walls of the right ventricle, where the muscular structure had been partially replaced by fatty tissue. A white tough fibrous clot or mass was found in the left ventricle, which continued into the aorta four or five inches, but did not appear to be attached or adherent to any part of the cardiac structure. In the right ventricle was found another mass, more white and compact than the one in the left. It was nearly cylindrical in form, and extended from the apex of the ventricle into the pulmonary artery, beyond the point where the latter vessel was severed in removing the heart from its position in the chest. This body was closely attached to and completely identified with the free edge of the anterior lobe of the tricuspid valve, but was free from all other attachments. The semi-lunar valves of both sides, the mitral, and the lobes of the tricuspid appear entirely free from thickening, or signs of disease, except just the edge to which the contained body is attached. The heart was presented and examined by the members present with much interest. Was the body in the

right ventricle and pulmonary artery a true excresence or polypoid growth from the edge of the tricuspid valve? And was it this that had been for many years embarrassing the circulation and respiration, and rendering a satisfactory diagnosis difficult? Or was this a simple fibrinous formation, (a thrombus), and the apparent identification with the edge of the tricuspid valve a mere accidental adhesion. The latter is probably the true state of the case. Yet, the firmness of the adhesions; the cylindrical form, and density of the thrombus, together with the preceding history of the patient, indicate that it had been in existence a long period of time. That in the left cavity is evidently of more recent formation.

ARTICLE XXXVII.

A CASE OF PUERPURAL CONVULSIONS—TEDIOUS LABOR, ETC., ETC.

By N. S. DAVIS, M.D., Professor Practical Medicine.

Mrs. M., a lady aged about 30 years; below the medium size; nervous temperament; was married little more than seven years since.

Previous to marriage she had suffered some from dysmenorrhœa, and, soon after marriage, there was added slight leucorrhœal discharge, with a sense of pressure behind the pubes; a disposition to urinate more frequently than natural, and moderate constipation. The urine, however, was natural in quality and quantity, except occasionally, when she had paroxysms of palpitation and sleeplessness, when it would become abundant and limpid. After she had been married three or four years, and not becoming pregnant, while the foregoing symptoms were slowly increasing from month to month, she sought medical advice. From the commencement of her married life, she had been anxious to become a mother, and felt much disappointed that pregnancy had been so long delayed. On making a vaginal examination, I found the neck and os uteri small, hard, and

turned slightly backward, while the anterior wall of the body of the uterus rested against the bas fund of the bladder, and the anterior wall of the vagina appeared unusually short. In other words, the neck and os were small, with partial anteversion.

These conditions explained the pressure behind the pubes, and the desire to urinate often, but were hardly sufficient to explain the entire exemption from pregnancy. The general health and nutrition were good, although subject to periods of nervousness, more especially at her monthly sickness, which was very regular in its recurrence. About three years since, while I was absent from the city, she was under the care of Prof. W. H. Byford, and she spent the following winter in Florida, with some friends. With the exception of some nervous paroxysms, her general health remained good, and her menstruation regular.

Little more than a year since, she again consulted me, with direct reference to her sterility. Examination revealed the uterus and vagina in the same conditions as previously described, except a little more tenderness on pressure against the anterior and lower part of the uterus, sending some pain in the direction of the left ovarium. The opening through the os and uterine neck was not contracted, and the amount of menstrual fluid was sufficient. Neither was there any discharge from the os indicating inflammation in the uterine cavity. There was, on the outer margin of the os, a slight abrasion, with undue redness, to which I applied a solution of nitrate of silver several times, and it entirely disappeared. She also used, once daily, a solution of sulphate of zinc, and morphia—(10 grains of the first and 1 grain of the second, in 3 ounces of water)—as a vaginal wash. Every effort to correct the partial anteversion was fruitless, apparently, from the shortness of the anterior part of the vaginal walls. Thinking it might modify favorably the nervous system of organic life, I gave the patient, internally, the liquor arsenicalis, or Fowler's solution, in doses of 8 drops, at each mealtime, well diluted with water. She continued this course of treatment, with occasional inter-

ruptions of a few days at a time, for about three months, when the failure in the appearance of the menses at the proper time, with a characteristic nausea, created suspicions of pregnancy. Time proved the correctness of these suspicions. During the first four months, she suffered almost constant nausea, with more annoyance from a frequent desire to urinate than previously; but, otherwise, her health continued good through the whole period of pregnancy. After the supposed full completion of the period of pregnancy, I was called, hastily, on the morning of the 21st of September, 1870, the messenger stating that the lady was in convulsions. On arrival, she had just recovered from a severe paroxysm of general convulsions.

The pulse was only slightly accelerated; skin natural; pupils of eyes natural; mind clear; and urinary secretion apparently free. She had complained of headache several days, and the pain had been severe during the preceding night. There were no labor pains, and an examination, per vagina, showed a full development of the neck, and os uteri, but no dilatation whatever. Indeed the finger could detect no opening, the whole uterine surface within the vagina appearing smooth and firm, with the head resting against it, without any perceptible amount of intervening fluid.

Hoping to relieve the headache, and prevent the recurrence of convulsions until the labor-pains should come on, I directed a solution of bromide and iodide of potassia (15 grs. of the first and 5 grs. of the second) to be given every two hours. Saw her again about 5 o'clock P.M., the convulsions having recurred with considerable severity, three or four times during the afternoon.

Her face was now flushed; head hot and painful; pulse and respiration moderately accelerated, but no labor-pains, and no dilatation of the os uteri.

I opened a vein in her arm and took about sixteen ounces of blood, which gave immediate relief to the headache. This was followed by a powder of calomel, 5 grs., leptandrin, 3 grs., and bi-carb. soda, 5 grs., to move the bowels, and 15 drops of tincture of Calabar bean, every two hours, in the place of the bro-

mide and iodide of potassa. She passed the night comfortably, the bowels moving two or three times, the kidneys acting about natural, and no recurrence of the convulsions or headache. There were slight pains in the lower part of the back, but no perceptible change in the condition of the os uteri. During the day, the pain in the back increased and became regularly paroxysmal, recurring every twenty or thirty minutes, but not severe. The head of the child was pressed more firmly downward, and the walls of the uterus, as felt through the vagina, were thinner, but still no opening of the os. During the first part of the night, the labor-pains steadily increased in force and frequency, and her general condition remained good.

The head of the child had fairly entered the superior straight of the pelvis, the uterine walls felt thin and tense from the pressure of the head, but no indication of liquor amnii, nor any dilatation of the os. A very careful examination with the finger, during the latter part of the night, finally identified the os uteri with an opening hardly large enough to admit a quill. By working, in the absence of the pains, when the parts were more relaxed, I succeeded in insinuating my finger into the opening. The edges of the os were very thin, but firm and with each pain, contracted like a sphincter muscle. By careful and persistent efforts with the finger, for more than two hours, the rigidity of the os was finally overcome, and the labor appeared to progress well, though slowly. By 10 o'clock A.M., of the 22d, the head of the child occupied the cavity of the pelvis, but not low enough to rest on the perineum, and the mouth of the womb had not fully receded over the head. Then the labor became stationery; and though the pains continued regular, and with a fair degree of force, hardly any progress was made for three hours. The patient becoming more restless and wearied with the tediousness of the labor, I succeeded in carefully adjusting the forceps and completing the delivery; but it required a full hour, making the traction with the natural pains, and finally increasing the force to the full extent of my ability. The child was partially asphyxiated, but soon recovered its respiration. Laceration of the perineum was wholly avoided, and

mother and child progressed favorably, and are now in good health. I have thought this case worth recording, as having some bearing on the following questions: 1st. Did the use of the arsenical preparation have anything to do with the supervention of pregnancy after more than six years of barrenness? 2d. Did the use of the tincture of Calibar bean aid materially in preventing the continuance of the convulsions? That the *bleeding* was of essential service I have no doubt. The immediate relief to the headache and fever were so marked as to leave no doubt of its beneficial influence. I have had opportunity to use the Calibar bean in only two cases of puerperal convulsions—In both the patient recovered; but how much influence for good was attributable to this remedy I am unable to say—I only call attention to the facts.

Original Translations.

A NEW REMEDY FOR CATARRH.

A recent number of the *Heilbronn Memorabilien*, (Germany,) contains the following resume of an article on the nature and treatment of Catarrh, by Dr. M. Frank, of Munich.

Nasal Catarrh should always be regarded as an infectious disease. The infectious principle is chiefly transmitted to the nasal passages in the air of respiration, which very soon manifests its action in a profuse watery secretion from the mucous surfaces. The affection is then propagated along the lachrymal ducts to the conjunctival membrane, into the pharynx, Eustachian tubes, larynx, trachea and bronchial tubes, with the accompanying train of symptoms in these organs; or the affection may extend down the œsophagus, into the stomach and intestinal tract, with the corresponding morbid phenomena. In most instances, where the intensity is not great, it runs its course in from seven to eleven days. With many the febrile state, sense of weakness, and feeling of discomfort generally

are so great that the patient will take to his bed, or the necessity of continual cleansing of the nostrils, or sometimes the just appreciation of the danger to others, will cause him, for the time being, to avoid all society.

The constant neglect of colds, or ordinary catarrh, on account of its being regarded a trivial affection, is a matter of daily observation, and which led Hufeland to assert that a greater number of people died of it than from the pest.

Dr. Frank recommends the following treatment, which he has practiced for two years, with constantly favorable results:

Immediately on the approach of the first symptoms in the nasal passages the patient is directed to use a weak solution of the hypermanganate of soda as a disinfectant.

Enough of the hypermanganate is added to a goblet full of water to give it a cherry red color.

A handful of this solution is snuffed up the nostrils every couple of hours, using the precaution to blow out carefully after each operation. If the pharynx has become affected, the same should also be used as a gargle. Usually before the end of the second day all symptoms have disappeared. E. O. F. R.

Correspondence.

Towanda, McLean Co., Ill., *Oct. 15, 1870.*

Dr. N. S. Davis,—Dear Sir,—Herein I send you an imperfect report of a case that occurred in my practice a few days since—the first of the kind that has occurred to me in a practice of over twelve years.

On the night of the 11th inst., I was called upon to visit a child some five months old, that was reported to be suffering intensely from a colic, and had passed some blood. I visited the child as soon as I could—it being some miles in the country—and found that the child had been suffering excruciating pain, coming on every few minutes, since about 4 o'clock the previous evening—it now being about 3 o'clock in the

morning. At the time of my arrival the child was not suffering as much as it had been. Thinking that the trouble, whatever it was, might be subsiding, I gave the child one drop of tinct. Opii., and directed that it be repeated as often as every four hours, if the child still continued to suffer, and at the same time to use warm water injections, with a few drops of oil turpentine in each injection. The parents stated that the child had always been troubled with costiveness. After staying some two or three hours I left, with the injunction that if the child should get worse again, to let me know immediately. About 12 o'clock of the same day I was sent for again, saying that the child was no better, and had been passing more blood. At this time it occurred to me that it must be a concealed *hernia*, or an *intussusception*, and that I must prepare myself accordingly.

I found the child about the same as it had been the previous night, and at short intervals straining to stool, but passing nothing but blood, and as no fecal matter had passed, I felt satisfied that there must be an obstruction in the bowels some place.

I again examined the child for hernia, but finding none, concluded that it must be an invaginated bowel, and upon passing my finger—previously well oiled—up the rectum, I found the bowel hanging down within itself, and tried to replace it, but it would return as my finger was withdrawn. As the case was still recent, I thought best to reduce the displaced bowel if possible. I had no other means at hand than a valvular India Rubber ball syringe and warm water. I managed to inject near one-half gallon of water into the child's bowels, which satisfied me that I had found a hole somewhere, and upon examination, to my infinite satisfaction, found the Intussusception gone.

I directed the continued use of the opeate as before, to keep the bowels quiet for a time, and bowels to be filled with warm water again if the trouble should return.

At this date the child is apparently well.

Yours respectfully,

E. HOLDERNESS.

ENCEPHALOID CANCER OF THE LIVER.

WATERTOWN, WIS., *Oct. 8, 1870.*

DEAR "EXAMINER,"—If you think it of sufficient interest you may record the following:

Mar. 28th.—J. R., age 50, farmer, called at my office for treatment. Said he had been troubled at times, for years, with distress and sensation of burning in epigastrium. Had taken various remedies from different ones for "biliousness" and "worms," sometimes with apparent relief, more frequently with none. He had for some time past been troubled much more than usual.

He then complained of constant burning in stomach, and was not able to eat certain kinds of food, owing to increased distress produced. Tongue constantly coated and obstinate constipation. General health merely normal; working some, and walked on that day 15 miles. Could not sleep on back or left side. Never troubled with vomiting, though lately he would regurgitate certain kinds of food. Careful examination was made, owing to peculiar history. Nothing found with stomach different from what we usually find in chronic folliculitis of that organ. Liver seemed a little enlarged, still not so much as to be certain of it.

Not satisfied with what I found, I told him to return in two weeks, and gave him directions for improving digestion, etc.

April 12th.—Came again. He was quite satisfied with result of treatment. No change in size of liver. Less tenderness over stomach. Constipation disappearing; appetite better, but still not able to sleep on back or left side. Made few changes in treatment, and told him to call again if not better.

May 4th.—Was called to see him. Found him anxious about extreme anasarca of lower half of body, and almost complete anuria, which had taken place the preceding night. Said that he had continued feeling much better since his call at my office, and thought he "would be all right if he could get rid of the *dropsy*." That night he felt that he could sleep on his back, and thought he would try it. While attempting to dress he

found his feet and legs greatly enlarged. As the œdema was confined to lower half of body, I searched for a local obstruction to venous circulation of vena cava. This I found in enlarged liver, the border of which could be distinctly felt below the ribs; hepatic dulness, extending over a much larger surface than at first. No pain; countenance anxious; skin yellow; eyes fearfully white. Loss of appetite and some nausea. Ordered a hot-air bath, a mild diuretic, and that he should be constantly on his right side, regarding the symptoms as due to pressure of the enlarged liver on the vena cava. Seeing a hopeless case of cancer I could do nothing but palliate symptoms.

May 6th.—Found patient and friends hopeful, as anasarca was greatly diminished, and urine free and normal. The liver, however, had extended over one-half inch lower in two days, and nodules could be felt in several places over it. Told the friends what termination would be.

May 8th.—Some favorable changes in patient's symptoms, but still an increased decent of one inch. Hoping that my diagnosis was exaggerated, they wished for counsel.

May 10th.—Brought Dr. Cody, who confirmed what had been said. Lower border of liver not far from umbilicus; cachexia decided. Not much anodyne needed throughout the treatment. This rapid growth continued till the abdominal cavity was nearly filled.

Hiccough set in about the 14th, but was controlled with arom. spits. am. to a great extent. Would take no medicine towards the last but this, for the distress from the hiccough was very irritable, and became quite helpless from œdema till the 22nd, when he died, 18 days from the time the liver began rapidly to enlarge. No autopsy; abdomen at death was greatly distended, hard, and nodular.

The interesting features of this case are: obscure approach, with apparent amelioration for 5 weeks, under hygienic and dietitic regulation, rapid growth, immense size, and freedom from great pain.

T. G. WILLIAMS.

Selections.

HOSPITAL REPORTS—UNIVERSITY OF PENNSYLVANIA, SEPTEMBER 12, 1870.

Clinic of J. E. GARRETSON, M.D., Lecturer on Surgical Diseases of the Mouth, Etc.

(REPORTED BY DE FOREST WILLARD, M.D.)

ANGIONOMA.

GENTLEMEN: I have to present to you this morning, two patients, both infants, who will well illustrate almost the two extremes of a class of tumors known as vascular or erectile growths, or, as often called, *nævi.*

Upon the cheek of the first you will notice a small, dark spot, scarcely distinguishable, yet sufficient to attract the eye of the anxious patient. It is a "mother's mark," and is an insignificant, harmless, little tumor, requiring but a simple operation. The other, a colored babe, æt. 6 months, has, as you perceive, a tumor upon the cheek, in the neighborhood of the angle of the jaw, and extending into the parotid region, of the size of a small orange, which, as you will soon discover by the history, is a grave and serious lesion, requiring an operation of such magnitude as to place the life of this child in jeopardy.

The mother informs me that this was discovered soon after birth, but was then of small size; that it has been steadily growing, and that for the last few weeks it has increased with such alarming rapidity that she has been sent to us from the country, to ascertain whether there be any hope of operative relief, for she fully understands that the child must die, either from rupture or ulceration of this mass, with its consequent hemorrhage, unless it can be removed.

You will see that this tumor is soft and elastic; that it pulsates strongly, synchronously with ventricular sistole; that its size can be diminished by steady pressure, and that it enlarges whenever the child makes any violent exertion, as in crying, coughing, etc. It is, therefore, an erectile growth—a congeries of dilated bloodvessels; tortuous arterioles and capillaries, bound together by subcutaneous connective tissue; it is a vascular tumor, and belongs to the same class as the nævi.

The color of these vascular growths depends upon the excess in their composition of either the arterial, venus, or capillary element, and this color does not gradually fade out into the

surrounding tissues, but is abrupt in its definition, owing to the fact that the tumors are usually supplied by one or two large bloodvessels, while their vascular connection with adjacent parts is but moderate, and the smaller nævi are evidently but a hypertrophy of the radicles of these principal vessels.

In the tumor before us we have one which is largely arterial. It is what is often called an "aneurism by anastomosis," but it is not, properly speaking, an aneurism, but is an enlargement of the terminal branches of these vessels of supply, and is, in fact, an exaggerated nævus, its variation being in degree, not in kind. The same remark will hold good in regard to the venous tumors so often found, which differ only in having an excess of venous dilitation. They may differ widely in degree, but they all belong to one genus,—they are vascular, "bloody" tumors.

For the relief of such a lesion as this, a cutting off of the source of supply would at once suggest itself; but should we cut down and tie the external carotid, we know that the anastomoses of the arteries of the face are so intimate with those of the opposite side, as also with the internal carotid by means of the nasal and other branches of the ophthalmic, that we should not thus be able to check the current; nay, further, should we even ligate the common carotid, we might still have the supply kept up by the circuitous but constant route of the profunda cervicis from the subclavian with the princeps cervicis from the occipital, a branch of the external carotid, a circulation being thus quickly established, and our object defeated, after all the dangers of such an operation. This method, therefore, will not be adopted; but we will take the surer plan: that of excision. This, truly, will be a formidable operation, when we consider how vascular are these parts, even in the normal condition, and the close proximity of such large arterial trunks as you will see by this dried preparation; and I doubt not, ere the excision be completed, we shall be down upon the carotids themselves; yet, with proper care, and due attention to the prompt ligation of all severed vessels, I think we shall be able to remove it without sufficient loss of blood to endanger the child's life.

We shall not, however, endeavor to remove this mass entirely by the knife, but shall first cut away all the surrounding structures, and then throw a strong ligature around its base, thus strangulating the remaining portion, and ridding ourselves of the greatest source of alarming hemorrhage, *i. e.*, the last few incisions which would cut the great vessels supplying it.

When the tumor is small, as in the first case before us, *strang-*

ulation is the preferable method, either by encircling the mass as a whole, or, as the skin is somewhat liable to take an erysipelatous inflammation, by first circumscribing it with an incision of the skin, and then directing the ligature into this cut surface. Another method is to pass a double ligature through its base, and tie it in two portions. The second method is best, in my estimation.

Another mode of cure in these small growths is by the action of pressure, either by means of a compress, or by the use of collodion; but this procedure is only applicable to certain situations. Needles, heated to whiteness, have also been passed through the base of these tumors, and have sometimes been followed by cure.

Electrolysis has also been of service in some cases of nævus, but it is limited in its application, and is so slow in its action that patients usually prefer the more rapid method of excision or ligature. The great difficulty to be encountered in the cure arises from the fact that occlusion of a veinule or other radicle seems to have but little influence upon its neighbors, thus necessitating repeated operations until the electrolytic action has directly influenced almost each individual vessel. Moreover, since electrolysis cauterizes the tissues, as well as coagulates the blood, it is evident that a slough must ensue, provided the superficial portion of the skin be much affected, and, if such an occurrence must take place, with its consequent cicatrix, it is preferable to have it occasioned by the more speedy action of a ligature. The slough of galvano-puncture is, however, perfectly devoid of hemorrhage, since it is tardy in its separation, and is remarkable for its extreme dryness.

These objections to its use, however, only apply to nævi which are superficial, or when the skin is implicated. In subcutaneous nævi, the operation possesses the advantages of being more safe and certain than injection, and in cases where no slough is necessitated, we dispense with the scar of an excision or ligitation, that is, provided insulated needles are employed.

A Bunsen or other battery may be used, the number of needles varying with the size of the tumor; but, in all cases, care should be taken not to carry the action beyond the whitish hue, indicative of cauterization.

In regard to the introduction of gas into the circulation by this method, I do not think there is the slightest danger in cases of nævus, though spoken of by Rutherford and other able writers on electro-therapeutics.

In cases of huge nævi, or vascular tumors, like the one before

us, this course might be pursued with advantage, especially when excision is hazardous, but I think we shall be able to accomplish our object in perfect safety with the knife and ligature, saving much time and trouble by such a course.

Another mode of removal of nævi is by the use of caustics, such as chlor. zinc, corrosive sublimate, Vienna paste, or the strong acids, and a cure is usually affected by a separation of a slough and healing of the ulcer.

The seton is sometimes used, and its presence occasionally causes sufficient inflammation to obliterate the vessels and leave behind no perceptible scar.

Hypodermic injections were at one time quite in vogue, but owing to several deaths which have occurred from the carrying of clots into the circulation, have fallen into disuse. The substances used were iron, nitric acid, iodine or creasote.

A method practiced by some English surgeons is that of "piece-meal" removal, *i. e.*, picking out the mass, or tearing it away, fragment by fragment, the object being to prevent hemorrhage, upon the same principle as tortion of arteries.

From all these operations, then, we must select the one most suitable to the case upon which we are to perform it, and each will be found applicable to certain localities or conditions; as a rule, however, I prefer the use of the knife to circumscribe the tumor, then to be followed by the ligature.

In regard to the time of operation upon an infant, I will only say that we should always remember that a nævus may spontaneously disappear, or atrophy a few weeks after birth, or it may ulcerate and thus destroy all the unhealthy tissue; still this event is so rare that we need not wait long for its occurrence. The age of the child will not make any great difference. Its condition will, however, vastly influence the result, *i. e.*, a child, who is teething, or has just recovered from measles, cholera-infantum, etc., will be much less likely to bear an operation well, than one who had fully recovered from such a difficulty. Put your patient in a good, sound health, and then operate, no matter what may be its age.

[Two incisions, each two inches in length, and crossing at right angles, were then made through the integument, and the four flaps dissected off the tumor. The knife was then carried through healthy tissue, completely about the mass, each artery being compressed or picked up, as it was divided, so that comparatively little blood was lost. As the deep portions were reached, it became necessary to cease the incisions on account of the size of the arteries, and a strong ligature was then

thrown around the base, tightly strangulating the remainder. The wound was dressed with carbolic acid oil; stimulants and anodyne were freely given, and the infant soon rallied. On the fifth day the slough separated, and the flaps, which had before been left loose, were laid in place, and secured by hare-lip pins and the interrupted suture. The cure has been most satisfactory. DE F. W.]

DEFORMITY OF THE MOUTH—DIEFFENBACH'S OPERATION.

The next case which I have to show you is Robert C., æt. 11 years; suffering from a deformity of the mouth, resulting from the contraction of a cicatrix of a slough, which slough was one of the many concomitants of scarlatina, a disease which, as you know, may be followed by lesion of almost any structure or portion of the body.

You will perceive, the left angle of the mouth is drawn downward and pulled in, or puckered in such a manner as to give an unpleasant appearance to his face, and he desires us to rectify this condition. This is not a common condition, yet it is sometimes met with from wounds, bruises, etc., and we must study the complications which exist in each case, governing our operation by the extent and character of the contraction.

In looking at a case of this kind, you must bring to bear upon it all your artistic, as well as surgical, skill; you must look at and view it in different positions, until you have decided what alterations are necessary to bring this deformed mouth into a normal condition, with the labial curves and commissures in their usual beautiful symmetry; and, in order to do this, map out in your mind, or, still better, in ink upon the face, the proper outlines of a perfect mouth; then you can arrange your incisions to suit the particular deformity.

In the present instance, the contraction is not so great as is often seen, where the orifice is sometimes so small as scarcely to admit of the passage of the little finger, and is, therefore, comparatively an easy case.

For the relief of this difficulty, our first thought would be to merely incise the commissures to the required extent; but, unfortunately, such a procedure would only be followed by speedy union and greater consequent contraction than before, since it is impossible to prevent union of the fresh surfaces, even though tents, lead, etc., be placed between the edges.

Mechanical dilitation gives severe pain, and does not produce any permanent good.

The only method which has proved of service has been that

of Dieffenbach, of Berlin, which is performed by the surgeon first introducing the fingers of one hand into the mouth of the patient, in order to guide and direct the incisions and make the cheek tense, during which time he should stand either behind or in front of his patient, according to the side of the mouth upon which he is to operate, and then inserting the blade of a pair of scissors into the cheek about two lines outside the point which he intends shall be the labial commissure, he cuts inward and upward, dividing all the tissues save the mucous membrane, until he has reached a point in the upper lip, which will, when brought down, fulfill the required conditions. Again, a similar incision is made from the same starting point, but this time toward the lower lip, which, in turn, is divided nearly to the same extent as above; the cuts in each instance being varied to suit the irregularities in the position of the contracted orifice. Next, dissect away the flesh down to the submucous coat, thus leaving but the mucous membrane, which must in its turn be divided by a straight line running out its centre, to a point two lines inside the angle of external incision.

The mucous membrane is now turned over to imitate the normal lip, above and below, on each side, and its edges sutured to those of the skin, thus forming the vermilion border of a new lip.

This operation usually answers admirably, but sometimes, unfortunately, the mucous membrane also participates in the lesion, and the operation cannot be successfully performed; or, again, certain accidents may come between the surgeon and success, and cases will be found where this operation will not cure.

In such cases I am in the habit of modifying, or rather of adding to, or associating a mechanical appliance with these surgical means.

This consists of what might be called a "mouth-stretcher," an instrument made of wood or rubber, with a deep grove around its border, which is slipped between the lips after time has been given for union of the reflected mucous membrane. The lips will be caught and held by the gutter of the apparatus, in the whole of their circumferences, and thus not only is the healing influenced to a desired shape, but undue citratrical contraction is also prevented. This instrument should be worn constantly for a week or two, after which time its use should be continued at night until all contraction has ceased. This apparatus also does more than merely prevent contraction; it may even remedy defects which are the fault of the operator, by

compelling the regular healing of the wound, and such mistakes and blunders you will make, unless you carefully weigh each cut, and look at it in various aspects—you must bring all your mechanico-surgico skill into use.

[The incisions were then made as described, the tissues being removed down to the mucous membrane, which was brought over and firmly stitched to the integument. At each step of the operation, the case was viewed, both from a near and distant standpoint, thus rendering the final adjustment a more perfect success. The hemorrhage was but slight, and soon ceased. Cold water dressings were applied, and the boy directed not to exert any strain upon his mouth until union should be well accomplished.—De F. W.]—*Medical and Surgical Reporter.*

THE CARE OF ABANDONED CHILDREN.

Prof. Jacobi, a high authority on all matters connected with the treatment of children, and one of the physicians of the Infants' Hospital on Randall's Island, and of the Nursery and Childs' Hospital in this city, has published an important report concerning the mortality of infants in institutions devoted to their aggregation and rearing, both here and abroad, with statistical tables which would rejoice the heart of Herod the Tetrarch, or relieve the Rev. Mr. Malthus's mind of all immediate apprehensions concerning the increase of population beyond the means of subsistence, were either of these worthies alive to profit by the information.

Without following all the numerical details embraced in this report, it may suffice to state, in general terms, that the death-rate among children under two years old, seems to be more than twice as great within the most carefully tended establishments where numbers of them are gathered together, as without the walls of these charities. Collating the mortuary records of eleven European countries, (and these dated some years ago, when the sanitary conditions were probably worse than now), the average percentage of deaths during the first year, even including still births, is 20.85, counting the total mortality in palace and hovel alike; while in foundling asylums and hospitals, these figures are commonly doubled, and in some instances more than tripled. Of "abandoned children" coming under official care, the deaths range from 50 to 100 per cent.

The estimates thus far relate to foreign countries; but on

turning our glance homewards, the prospect affords no greater encouragement. In the Nursery and Child's Hospital, which is under the painstaking management of a number of most estimable ladies, and the Infant's Hospital, controlled by the Commissioners of Charities and Correction, the mortality, despite all care and watchfulness, is frightful. In the former, to which the children were admitted at the average age of 4½ months, the rate has been 40 deaths to 60 admissions, or even counting infants discharged after sixteen days' stay in the institution, 50 per cent. of all inmates under two years of age; and Prof. Jacobi adds:

"It appears that the mortality of the nursery, if all of the admitted infants were newborn instead of being 4–5 months, would be so appalling that I am glad I am not required to state its exact figures. The worst figures of the European foundling hells of former centuries are not more fearful than ours, and although being an officer of that institution myself, and believing that I and all the rest of us have conscientiously tried to do our duties, I cannot but testify and bow down to the truth, that in spite of all the efforts of the medical staff, and the painstaking of kind-hearted and self-sacrificing ladies, the probability of the lives of children entrusted to a public institution is very slim indeed. The younger the children, and the larger the institution—the surer is death. Every story added to an edifice which is meant to be a temple of love, is an additional hecatomb of the innocents. Modern civilization, planning for the best, but mistaken about the means, has succeeded in out-Heroding Herod."

And again:

"Thus, the nursery, losing 36.5 children of 100 admitted at 4–5 months, would lose 73 of 100 admitted at birth, *viz.:* more than 2½ times as many as the average deaths of newborn children before the end of their first year in the whole city of New York."

As regards the Infants' Hospital, it is stated that the mortality rates "do not look any more promising; on the contrary, they are worse in proportion to the poorer condition in which the infants are received, and the numerous and well-known drawbacks our institution is suffering from." Notwithstanding that the average age of admission is four months and 14 days, thus excluding nearly two-thirds of the deaths usually occurring in the first year of infancy, the rate of decease in 1869 was 59.7 per cent., and even this is an improvement over former years.

Such figures as these bear sadly conclusive evidence as to the worse than uselessness of philanthrophic schemes which involve the aggregation of numerous inmates under the same roof; and yet the great question remains, what are we to do for the forlorn little waifs and strays of humanity that abound in all large cities? Means might, perhaps, be devised for improving the condition of infants cared for at home by even the poorest parents; but we should still have to provide for the multitude of illegitimate and abandoned children who are necessarily dependent on public charity for shelter. How this may be best accomplished is a matter of which the practical settlement lies in the future. One thing is clear; the crowding together of large numbers must be avoided, and separation practiced as far as possible. In France, the best results are obtained where children are distributed in country farm-houses for care; but there the system is under rigid governmental supervision, and the developments of "baby-farming" in England show the frightful dangers of such a plan when exempted from authoritative control. Under our republican institutions, it would be impracticable, even were it permissible, for the government to assume the direct management of affairs of this sort, and they must be left, as now, to private benevolence.

We believe that the solution of the problem will ultimately be found in the adoption of the "cottage system;" in the abanment of large asylums and hospitals, and the erection, in their stead, of numerous small and inexpensive structures—little sanitary villages, so to speak—in the pure air beyond the city limits. The Cottage-Hospital at Ventnor, England, has been found to work admirably in the case of sick adults, and we are convinced that a similar plan for the rearing of infants, under such careful management as that of the Nursery and Childs' Hospital, would incalculably reduce the death-rate among the little ones taken in charge.—*N. Y. Medical Gazette.*

Cancer of Uterus.—Professor Fordyce Barker, of New York, advocates in those cases where there is extreme sensitiveness of the ulcerated surface, pessaries of iodoform.

℞. Iodoform ---------- gr. x.
Butyri cacao ---------- ʒ j.
Glycerine ---------- gtt. v. M

One pessary. This also serves to correct fetor. A dracham of iodoform to the ounce of lard, is also a beneficial ointment. —*New York Medical Record.*

Abridgments from Our Exchanges.

On the Influence of Section of the Cervical Pneumogastrics on the Action of Emetics and Cathartics.—Dr. H. C. Wood, Jr., in the *American Journal of Medical Sciences*, details a very extensive series of experiments on the lower animals, to demonstrate the facts in regard to this subject, which he accompanies with copious comments.

Although the English and French anatomical works do not describe the pneumogastric as descending in the abdomen below the upper end of the duodenum, Dr. J. Rollman, a German, seems to have demonstrated, that the posterior, or right par vagum, is distributed to the liver, spleen, kidneys, supra-venal capsules, and the whole of the small intestines; hence, it seemed rational to believe a connection of function existed between them.

The first series of experiments described, was instituted to determine how far section of the vagus nerve interferes with vomiting. Four dogs of different sizes and species were dosed, some time after section of the nerves, with a variety of emetics in large potions, such as viridia, veratria, and veratroidia, and both internally and hypodermically, and they all died without vomiting. Three other dogs were experimented with in the same way, only that antimony was given as the emetic, with like results. Ten other experiments were made with lethal doses of veratria and with arsenic, without causing vomiting. These are sufficient to prove that emetics will not act after division of the pneumogastrics. "That the non-occurrence of emesis is caused by the arrest of gastric secretion is, I think, demonstrated by the absence of fluid in the stomach on *post-mortem* examination."

In order to determine the relation between these nerves and purgation, eighteen animals, mostly cats, were experimented with. These experiments were varied, both in the drugs used, and the manner of using, in almost every conceivable way in which purgation could possibly be produced, after the nerves were cut. Only on two, out of the eighteen, was there any purgation induced.

These experiments with the first series seem sufficient to prove that purgation is impossible after division of the cervical pneumogastrics.

Two experiments were tried in which there was purgation, very free in one and slight in the other, after division of the nerves.

Why is it that in section of these nerves in a majority of cases purgatives do not act, but in a few cases they do? The answer is evidently wrapped up in the question: How does division of the nerve cause arrest of intestinal secretion?

After section of the par vagum secretion in the stomach is arrest-

ed; the arrest of that of the intestines is doubtless due to the same cause. Three plausible explanations present themselves:

First. The par vagum is possibly the direct antagonist of the contracting vaso motor nerve of the alimentary canal. If this is true, there must be contraction of the capillaries after section of the nerves preventing secretion.

Second. Shock.

Third. Accumulation of carbonic acid in the blood owing to the impeded respiration.

In order to determine whether the par vagum was a vaso-motor nerve or not, he tried other experiments, nine in number. The course pursued was to open the abdomen after section of the nerve, and apply various irritants to the intestines, both inside and outside. "A careful study of three experiments will, I think, convince any one that there is no direct connection between the pneumogastric nerve and the intestinal circulation."

In order to see how far "shock" could diminish the action of the intestinal glands, another series of experiments was made. A cat had all its legs broken, and vomited readily on administration of emetics; upon others the carotids were tied, and other means were taken to produce shock, after which emetics and carthartics were given, usually with their full operation. Dr. W. says of these last experiments, "they are not very decisive, but are, I think, sufficient to show that the intestinal effects of a division of the nerves cannot be accounted for by 'shock' alone."

To ascertain how far the arrest of secretion in the alimentary canal after division of the nerves is due to the disturbances of the respiration, to the deficient decarbonization of the blood, two series of experiments were undertaken. In the first, the action of one lung was more or less obstructed by air forced into the pleural cavity and otherwise, and then purgatives were administered. Five animals were operated upon, and in all but one, the ordinary action of the medicine was wanting; in this one there was slight purging only.

In the second series of experiments, the animals were compelled to breathe an atmosphere heavily loaded with carbonic acid gas, while they were plied with purgatives in very large doses. The trial was made with four different cats, and in not one was there any normal action of the purgatives produced.

These experiments seem to prove conclusively, that an excess of carbonic acid in the blood is capable of lessening, and when carried beyond a certain point, of wholly preventing in most cases, emesis and purgation. In doing this, the poison not only arrests muscular action, but stops likewise secretion, as is shown by the empty condition of the intestines *post mortem.*

To clear up the question as to which of these results is produced in greatest degree two cats were killed by inhaling carbonic acid, when on opening the abdomen, it was found in both cases that on irritation considerable peristaltic action was manifested.

The doctor sums up the results of his extended study as follows:

"*First.* The division of the cervical pneumogastric does, in the majority of instances, but not always, absolutely arrest free gastro-intestinal secretion, emetics and cathratics being absolutely powerless to produce it.

Second. That this arrest is not due to any direct influence which the nerve has upon the intestine or its circulation, but is owing to two or three causes: accumulation of carbonic acid in the blood, interference with the circulation of the lungs, backing up the blood upon the portal circulation, and perhaps shock."

On Excision of Joints for Disease, and Especially of the Knee, Hip, and Elbow.—At a recent meeting of the Royal Medical and Chirurgical Society, Mr. F. J. Grant read a paper on this subject, in which he endeavored to set forth the conditions of disease which indicate excision of the joints in general. He has given the analysis of a series of cases, in regard to the Pathology, the operation, and its results.

The necessity for either excision or amputation in joint diseases, implies incurability by non-operative treatment. As regards excision, incurability is defined as that condition in which the joint has become *functionally useless* by destruction of the articular cartilages, without anchylosis, but while the *constitution* still retains the reserve power requisite for the long process of reparative union—averaging three months, after the removal of the diseased bone. Cases which do not have this requisite constitutional reserve power, but which are accompanied by prolonged hectic and exhaustion, will be so far unfavorable for excision, and must be submitted to the alternative of amputation.

As compared with the *natural cure*, by anchylosis, a possible result in joint disease, excision is preferably in proportion to the very long recovery by the natural process, a probation which entails long-continued suffering, and leaves the system inadequate to the contingencies of after life.

The author gave, at length, histories of the illustrative cases and their analyses. The following is a brief abstract:

1. *Excision* proved successful, by one operation in 16 out of 20 cases of the joints referred to.

2. Of the 4 unsuccessful cases, by this one operation, 3 were of *scrofulous* disease, and of the knee-joint, out of 9 cases; the remaining one being of *chronic* synovitis, and of the elbow-joint, out of 5 cases.

3. *Re-excision* was resorted to in 2 of the 4 cases; 1 knee-joint and one elbow-joint, the latter with a successful result.

4. *Secondary amputation* in three of the four cases. All three were knee-joint cases, and of scrofulous disease; one of which had been subjected to re-excision. The three amputations made *rapid recoveries.* These results tend to show that, if the attempt to pre-

serve a limb by excision, and even by re-excision of a large joint, as the knee, should fail, the operation is not unfavorable to secondary amputation to save life.

5. *No death* ensued in any of the 20 cases of knee, hip, or elbow joints, whatever had been the condition of disease, or the operation, —excision, re-excision, or secondary amputation.—*Lancet.*

On a Purely Milk Diet in the Treatment of Diabetes Mellitus, Bright's Disease, Disease of the Supra-Renal Capsules, Fatty Degeneration, etc.

By Arthur Scott Duncan, M.D.

The author continues a dissertation on this extensive subject, through three numbers of the *Lancet*, in which he most strongly advocates the treatment with skim-milk exclusively, of these several troubles, and supports his position with records of cases showing the efficacy of this course.

The milk diet, in the first place, in diabetes, is not objected to by the patient, but is relished, especially at the outset of the treatment when the thirst is intense. In this it is signally unlike, and superior to the exclusively meat diet of Dr. Rollo. The milk diet is as far superior to the meat diet as this was to any other previously used. But it is necessary to be persevered in methodically and exclusively until convalescence is established. If this rule is not followed from the beginning, the result will not be successful.

The use of milk twenty-four hours will produce marked improvement; the quantity and density of the urine fall, thirst and voracious appetite disappear, the skin becomes moist and perspiration is re-established, the troublesome nervous symptoms are abated, and refreshing sleep succeeds to the previous sleepless, restless condition rendered intolerable by the incessant thirst. In the two cases recorded, this rapid improvement was noted. In another case, on the same treatment, at the end of three days and with no other remedy, the urine fell from 23 pints sp. gr. 1038, to 6 pints sp. gr. 1038. In other words, in three days there was a dimunition of 17 pints of urine, and about 24 oz. of sugar. The other prominent symptoms of the disease underwent a like rapid change for the better. The fact that milk exercises a greater influence over diabetes than a purely animal diet, may be explained by the fact that casein, being a primitive albumen, is infinitely superior, as an agent of nutrition, to the albumen of muscle which has been highly organized for an important vital function. Beside the sugar of milk is altogether innocuous in this disease, as has been shown by experiments. It supplies the system with a saccharine, proximate, alimentary principle, equivalent to such as vegetable food affords. The sugar of milk is destined to supply for the nutrition of the young, an equivalent for the amylaceous and saccharine principles of the food of adults. Sugar in moderate quantities is not injurious in diabetes; it cannot

be again converted into sugar by any morbid process in the liver or elsewhere, and hence cannot furnish a pabulum for the elaboration of diabetic sugar.

Starch seems to be fuel for the keeping up of morbid action in all save advanced cases, hence its use in any shape should be wholly interdicted, even after recovery and sugar has for a long time been absent from the urine. The necessity of this precaution was shown by the case of one of the patients treated, who before leaving the infirmary, clandestinely partook of large quantities of bread, with the effect of causing the prompt reappearance of sugar in the urine; this, however, subsided in a few days on strictly prohibiting starchy foods.

The success of the milk treatment shows that in this disease it is not necessary to restrict the amount of fluid taken by the patient; the thirst bears a definite relation to the quantity of sugar voided, and subsides as the latter is reduced. All the patients Dr. D. has treated, were kept wholly on the use of skim-milk, until convalescence had been for sometime established, when lean meat and green vegetables were added for dinner.

Two cases are recorded of Bright's disease in which the milk diet was resorted to. In one, the patient had become enormously œdematous and ascitic; the urine was scanty, highly albuminous, and had a specific gravity of 1010. There were found abundant fatty and hyaline tube-casts. The patient was suffering from cephalalgia, nausea, and his countenance was pale, pasty, and puffy.

Five pints of carefully skimmed milk was ordered to be taken in divided doses each day; all other articles of diet were prohibited. A diuretic was likewise ordered, composed of twenty grains acetate of potash and twenty minims tincture of digitalis, to be taken three times a day. This course was pursued for a fortnight, when all traces of albumen in the urine had disappeared, and there was not a trace of dropsy left, neither did any again return; the daily quantity of urine which had been before commencing the treatment five pints, was now reduced to three pints, but its density had increased to 1015.

At this period the diuretic was left off, the milk continued, and a moderate quantity of brown bread allowed at each meal. A tonic of sulphate of quinine and sulphate of iron was ordered. In a month he was dismissed cured. In six months there had been no reappearance of the disease.

In the other case, the patient's condition was very much like the first, only perhaps worse. Exactly the same treatment was prescribed as with the former patient. The improvement was as prompt and positive. But on eating clandestinely starchy foods far beyond the amount allowed, he had a relapse, which brought back his disease with increased severity; his life was almost despaired of, coma began to appear, and death seemed imminent. By the continued use, however, of dractic purgatives, his condition was improved,

when the exclusive milk diet was again resorted to, and the patient went on to complete recovery to all appearance.

In about nine months, under bad hygiene at his own home, the disease was gradually reappearing.

A case is recorded of lead-poisoning and Bright's disease, with anasarca and epileptic coma, which had been in progress from, at the beginning, slight pains in the legs and head for six years. The patient had all the symptoms of severe lead-poisoning with albuminous urine. Under an ordinary treatment for the lead-poisoning the case improved in all its nervous manifestations, but the œdema constantly increased, and the deposit from the urine became more abundant. Epileptiform seizures were very frequent and severe. The patient was now placed on an exclusive skim-milk diet, and had twenty grains of acetate of potash three times a day as the only medicine. The case went on to a rapid and complete recovery. These cases were undoubtedly what Virchow calls *parenchymatous nephritis*—the disease being seated chiefly in the glandular epithelium of the uriniferous tubes. The *modus operandi* of the disease seems to be this: The convoluted cortical uriniferous tubules become swollen and distended by their morbid epithelial contents—glued together into solid casts by a fibrinous effusion. The fibrinous capsule of the kidney yielding but slightly to the pressure from within, the secondary capillaries—the efferent vessels of the Malpighian tufts, just external to them, become compressed, and the circulation through them more or less impeded. The blood is consequently dammed up in the primary vessels of the tuft, which are really within the tube and subject to no compression, and there results a constant escape of a large amount of albumen through their walls from the blood. The effect of the drain of albumen from the kidneys, is to impoverish the blood in this direction so much, that from the proportional excess of watery elements the red corpuscles are destroyed, and general dropsy occurs. Now, the first effect of skim-milk, taken to the extent of five or seven pints daily, is to cause a powerful diuretic effect; the effect of the profusion of water is to *flush* the uriniferous tubules, and wash out the material that blocks them up. This relieves the pressure on the secondary capillaries, more and more blood flows through them, and the congestion of the capillaries within the Malpighian tufts is removed, and less and less albumen transudes through their walls. While this beneficial change is going on, healthy epithelium is developed in the tubules which secrete the urinary excrement from the blood.

Milk is superior to other diuretics, because while it removes a large amount of water from the blood, it renews the supply of albumen in this fluid by the amount of this element which is contained in its substance, restoring a healthy condition of the blood, and preventing a *return* of the dropsy.

The History of Minute Bloodvessels.—Dr. J. J. Wood-

ward, of the U. S. Army, has written a report to the Surgeon-General, on certain points in connection with this subject, which is published in the *Medical Record.* This paper is mainly a description of certain observations and experiments on the minute vessels, having a bearing on the theory of Prof. Cohnheim, and others, of the passage of white corpuscles through stomata in the walls of the vessels, in inflammation.

He describes eleven specimens, which he has prepared by staining with a dilute solution of nitrate of silver, all of which he illustrates by photo-micrographs, and in which he shows the form of cells, nuclei, and what seem to be the stomata.

If a solution of 1 part nitrate silver to 400 parts of water, be brushed over a clean epithelial surface, from a recently-killed animal, and the tissue then washed with distilled water, and exposed to the light, it will be found, on examination by the microscope, that a brownish-black pigment has been deposited on the boundaries of the epithelial cells, while the cells themselves are stained very little or not at all.

If the same solution is injected into a vessel, and it be afterward exposed to the light, the lining epithelium is plainly mapped out.

After the staining with the silver has been accomplished, a solution of carmine in borax will, by soaking the tissue in it, cause all the nuclei to become tinted red.

The cells lining the smallest vessels are shown by the specimens to be of an elongated outline, one four-hundreth to one five-hundreth in. long, and only about one-fifth as wide, with irregular zig-zag borders. These borders interlock with one another, like the bones of the cranium forming the suturus, except where certain little openings are observed, which are presumed to be the stomata or openings through which white blood corpuscles may pass. These openings are to be observed most abundantly in veins of moderate size. They were found most numerous in veins one-fiftieth of an inch in diameter, or even larger, and they become smaller and rarer in smaller branches. They are comparatively infrequent in the capillaries, and still more so in the small arteries. In number and size, they vary in vessels of the same dimensions, in different parts of the body.

In figure they are rounded, oval, or oblong. "I have measured them as large as one-four thousandth of an inch in diameter, but smaller ones, one five-thousandth to one six-thousandth of an inch are more common, and the smallest and most frequent do not exceed one ten-thousandth of an inch." They are usually found in the marginal line, between adjacent epithelial cells. "From my study of these peculiar inter-cellular forms, I am inclined to regard with favor the opinion that they are actual openings in the epithelial layer."

It has been urged that, admitting that the stomata are veritable openings, the white corpuscles—one three-thousandth of an inch in

diameter—cannot pass through them for want of room. But the extraordinary modification these little bodies undergo during their so-called "amœboid movements" would readily credit their capability of passing through such apertures. As the amœboid movement does not occur in the white corpuscles while rolling along in the torrent of the circulation, but only when the movement of the blood is arrested, more or less, completely, the fact that corpuscles do not habitually pass through the walls will not militate against the notion of palutous orifices. That corpuscles do pass out of the vessels is shown by a preparation from the stomach of a mare, dead of gastro-enteritis. In sections mounted with Canada balsam, many of the small veins were surrounded with white corpuscles, fixed in all steps of their amœboid movement. In a number of places, the white corpuscles can be observed in the interior of the vein, in the vascular wall, and in the adjacent connective tissue.

The Treatment of Croup.---Prof. Fordyce Barker, at the request of Dr. Jacobi, has written out his views on this subject, which have been published in the *American Journal of Obstetrics and Diseases of Women and Children.* He thinks the terms false and true croup should be abandoned, as they convey a wrong impression; that the two diseases are identical, save in degree; that true croup is only a severer form of the same affection as "laryngismus stridulus," or "catarrhal laryngitis." But the croup of diphtheria he regards as an entirely distinct and specific disease.

In speaking of treatment, he urges an early resort to positive and active measures. He always commences the treatment with an emetic of the sub-sulphate of mercury (hydrargyri sulphas flava), three to five grains. If the first dose does not operate, he gives a second, but a third is hardly ever needed. This drug, for an emetic in croup; is superior to any other, on account of its promptness of action, because it is tasteless, and easily administered, and does not exhaust the system. The effect of an emetic is to deplete the mucous membrane by an abundant secretion of mucus, which is thrown off; to cause evacuation from the larynx, by the forced expiration, of any enudation, and to produce a revulsive effect.

Dr. B. urges the giving of this medicine very early in the disease; at once, upon the appearance of symptoms indicating any approach of croup. He advises that in families where there are young children with any tendency to laryngeal inflammation, there should be kept on hand powders of this emetic, to be used, in cases of emergency, by the parents or nurse, before the doctor's arrival. They can do no harm, if given occasionally when not really needed. If the case proves to be laryngitis stridulus, the source of the reflex-irritation should be sought and removed. If it is a case of simple catarrhal laryngitis, then opiates are the main reliance. But, to a case of true croup, when the child has a hot skin, quick pulse, and hurried breathing, Dr. B. prescribes veratrum viride, in doses

of one to two drops of the tincture every two hours, visiting the child as often as every eighth hour, and regulating the dose, so that in a few hours the pulse is brought down to 80 per minute. He has used the veratrum for 25 years, and never found it fail to reduce the pulse of irritation or inflammation, and never saw any danger from its use when thus closely watched. If the indications are that the disease is extending downward, by thoracic rales, hurried and labored respiration, he adds to each dose of the veratrum two grains of carbonate of ammonia. Once in a while, when the laryngeal and trachial obstruction becomes great, he has repeated the emetic with the turpeth mineral on the second or third day. In the advanced stage of croup, when the respiration is hurried and irregular, the paroxysms of cough less marked, and the cough huskey, he finds great service from quinine, two or more grains every two hours. The tolerance and value of quinine in such cases is very great.

During the 20 years he has practiced in New York city, he has not lost a case of croup. This fortunate success is to be attributed to the promptness in treatment which he insists upon among the families he attends, in fact, that the remedy is always kept ready for immediate use; to the incessant care with which he watches the disease during its progress, and, in on small degree, to the special agents which he uses as remedies.

Clinical Reports.

CLINICAL REPORTS—MEDICAL WARDS OF MERCY HOSPITAL.

Clinic of PROF. DAVIS. Reported by S———.

Oct. 13, 1870.—Case 1st, DIABETES MELLITUS.

Male; aged 40 years; native of Ireland; laborer; has been affected with symptoms of diabetes about one year. Shortly previous to the appearance of these symptoms, he had two attacks of throwing up blood to the extent of one pint or more at a time. Whether the blood came from the lungs or stomach is not very easily determined by the account given by the patient. He also suffered, at the same time, from loss of appetite and indigestion. The evacuations from the bowels have generally been regular—once or twice a-day.

During the last two or three months, his appetite has been good, thirst excessive, and yet he has steadily declined in flesh and strength, is morbidly sensitive to atmospheric changes, and voids from one to two gallons of urine per day. (Here the attention of the class was directed to two large glass-jars, filled with light straw-colored urine, which was the quantity he had passed during the last twelve hours.) At present, the patient's skin is harsh, rough, and dry, especially on the hands and neck; his pulse is soft, weak, and a little increased in frequency; moderately emaciated; muscular weakness; and mentally despondent. The taste of the urine present is sweet, and its odor characteristic. It readily enters into fermentation by the yeast test. (Their attention was directed to a specimen showing the process of fermentation in progress, and Dr. Lyman Ware, one of the physicians to the Dispensary, kindly exhibited a specimen of the fermenting urine under the microscope, affording each student a good view of the torulæ, or fungi, developed by fermentation.)

Trommer's, and other tests, might be applied, but the foregoing, in connection with the general symptoms, are sufficient to render the diagnosis certain in this case.

In commenting on the case, the Professor said, substantially, that the early symptoms of diabetes are generally obscure, and that the disease is often associated with tuberculosis. The digestive function is generally impaired; for, though the appetite may be good, or even voracious, yet digestion is slow, and accompanied by fulness, eructations, and mental depression. The bowels are inactive, the skin dry, and a gradually increasing thirst. As the disease progresses, the dry and harsh condition of the skin, and the loss of flesh and strength become more manifest, and the patient often complains of weariness and some pains in the back, and, sometimes, sharp neuralgic pains in different parts of his system. The existence of these symptoms, and especially the steady loss of flesh and strength, while the patient is eating and drinking, as well as urinating more than natural, should always cause us to suspect the existence of diabetes. And if, with these symptoms, the applica-

tion of the proper tests shows the presence of sugar, the diagnosis is rendered certain. A mere excessive secretion of urine, however, is not sufficient to indicate saccharine diabetes. In certain paroxysms of nervous excitement, the kidneys will secrete double or tripple the natural quantity of urine in a given time; but, in such cases, the urine is limpid, like spring water, and of low specific gravity, while in diabetes mellitus the specific gravity is high. In the case before us, the specific gravity of the urine, when the man first came under treatment, was 1040.

In albuminuria the urine is generally of high specific gravity; but here the *quantity* is generally small, and the skin and countenance of the patient is pale and bloated, instead of corrugated and shrunken.

The tendency of diabetes, when left to itself, is to steadily increase until the patient becomes fatally exhausted; but its progress is generally slow. In many cases, the symptoms are improved during the warm months of summer, and become aggravated by the cold and damp of autumn and winter. An atmosphere that relaxes the skin and increases the activity of its function, seems to lessen the activity of the kidneys, and thereby ameliorates the condition of the patient.

The pathology of the disease is still involved in obscurity. It was long since ascertained that the excessive quantity and saccharine quality of the urine did not depend on any specific or characteristic lesion of the kidneys. These organs appear to be only the outlet for an excessive quantity of glucose or saccharine matter, that finds its way into the blood from some other source; but from what other source is not yet fully determined. The experiments of Bernard and of Drs. A. Flint, Sr. and Jr., seemed to establish the fact that the liver was an active sugar-producing organ, and hence it became probable that derangement of the functions of this organ constituted the true source of the diabetes. But still later experiments have, at least, rendered it doubtful whether the sugar detected in the liver is not from *post mortem* changes.

It has long been known that somewhere in the processes of

digestion and assimilation, the starch and gum taken as food become converted into sugar; and, in health, the sugar is further converted into lactic acids and other products. But, in diabetes, this further change fails to take place, and the sugar remains in excess in the blood, stimulating the kidneys to excessive action, and, consequently, maintaining a constant drain upon the whole system.

Treatment.—The indications for the treatment of diabetes are, first, to exclude, as far as possible, all elements of food capable of being converted into sugar in the process of digestion. Second, to so alter the processes of digestion and assimilation as to complete the conversion of the saccharine products of digestion into lactic acid, or such other constituents as are capable of being appropriated to the tissues, or excreted without disturbing the function of the kidneys. To accomplish these purposes, there is probably no more efficient method than to keep the patient steadily on the use of skimmed milk, buttermilk, or milk-whey, bran-bread, and lean meat. For, fresh vegetables, onions, and cabbages may be allowed, as they contain but little starch or sugar. As an occasional change, a porridge, made of roasted or scorched cornmeal, may be allowed. In addition to the regulation of diet, I have found much advantage in the use of a teaspoonful of the liquid Bennett immediately after each meal. In some instances, a pill, containing pulv. opii half a grain, and sulph. cupri one-sixth of a grain, taken before breakfast and dinner, will, also, lessen the quantity of urine.

The wearing of flannel next the skin, and a warm bath two or three times a week, are, also, valuable aids. Diabetes is a very obstinate, and often incurable, disease; yet, I have seen a few cases cured by a persevering use of the foregoing means.

Book Notices.

A Treatise on the Theory and Practice of Obstetrics. By W. H. Byford, A.M., M.D., Prof. of Obstetrics and Diseases of Women and Children in the Chicago Medical College, etc., etc., author of the Practice of Medicine and Surgery applied to the Diseases and Accidents incident to Women; Chronic Inflammation of the Unimpregnated Uterus, etc., etc. New York: Wm. Wood & Co., 61 Walker Street. 1870.

This is an octavo volume of about 460 pages, published in good style, and amply illustrated by cuts. It is a concise, plain, practical treatise on midwifery, convenient, both as a text-book for students, and a work of reference for the practitioner. The subjects treated are arranged under the following heads: The Pelvis—the Fœtal Head—Female Organs of Generation—Generation—Displacements of the Uterus during Pregnancy—Abortion and Miscarriage—Labor and its Varities—Anæsthetics in Labor—Natural Labor in Multiple Cases—Attentions to the Child—Puerperal Condition—Difficult Labors—Hemorrhage after Expulsion of the Fœtus—Inversion of the Uterus Complicating Labor—Rupture of the Uterus—Prolapse of the Cord—Puerperal Convulsions. We freely commend the work to the patronage of the profession.

For sale by W. B. Keen & Cooke, and booksellers generally.

Heath's Practical Anatomy—first American from the second English edition, edited with additions by William W. Keen, M.D., Lecturer on Pathological Anatomy in the Jefferson Medical College; Lecturer on Anatomy and Operative Surgery in the Philadelphia School of Anatomy.

This book in reality supplies a want long felt for a real *dissector's manual.* We have many dissector's manuals, but none of them have been all that the student could ask, until this volume made its appearance. All of our dissector's manuals have either been so small, as to be of little benefit to the beginner, or so large and voluminous as to take his whole time to find

what he wanted. But Heath's Practical Anatomy, is a real help to anyone at the dissecting table, whether he be an experienced anatomist or a beginner. It is full and concise, descriptions clear, and illustrated with fine woodcuts, all calculated to be of the greatest possible assistance to the student. Dr. Keen, the editor, knowing from several years of successful teaching, what the exact wants of the American student are, has considerably modified the text of the original English edition, so as to bring it in accord with the method pursued in American dissecting-rooms. He has also corrected all errors, typographical and otherwise, and has made a number of important additions. Among which are the latest researches on the action of muscles. The Supinator Rudii Longus, for instance, has long been described as a supinator and flexors of the forearm, but it has been shown, within a few years, to be a powerful flexors of the forearm, its high origin on the humerous giving it its power.

There are also practical observations on the action of the Interossei, Omohyoid, and the most recent investigations on the ligamentous action of muscles, and of the nervous supply to the arytenoid muscle. Dr. Keen has also added some practical remarks on hernia, triangles of the neck, and has given some general rules for the relation of parts and the structure of organs. The directions for the dissection of the eye, are the best to be found in any work on anatomy. The additions also include directions for the preservation of subjects for dissection, and for making anatomical preparations, useful knowledge, not only for the student in the dissecting-room, but also to the practitioner.

After a careful examination of this book, we can say, that it is, all considered, the best book for the use of students, and those engaged in dissecting, with which we are acquainted.

H. W. B.

Transactions of the Twenty-fifth Annual Meeting of the Ohio State Medical Society, held at Cleveland, June 14–16, 1870.

This is a neatly published and bound volume of 300 pages; containing the following: Minutes of the Twenty-fifth Annual

Meeting; Address of the retiring President; Surgical Applications of Carbolic Acid, by P. S. Connor, M.D., Cincinnati, O.; Climatology and Diseases of Southeast Kansas, by P. Beeman, M.D., Iola, Kansas; Report of Committee on Anatomy Law; Historical Review of Medical Organizations in Ohio, by Edward B. Stevens, M.D., of Cincinnati, O.; Report on Hæmatics, by E. H. Wyatt, M.D., Delaware, O.; Report on Vaccination, by W. B. Davis, M.D., Cincinnati, O.; Report on Pneumonia, by O. G. Selden, M.D., Shanesville, O.; Prevailing Diseases, by J. B. Black, M.D., Newark, O.; Temperature of Nervous Diseases, by W. G. Conklin, M.D., Dayton, O.; Cantharisom, by Alex. McBride, M.D., Berea, O.; Report on Obstetrics, by Edward B. Stevens, M.D., Cincinnati, O.; A Poem, by John M. Brown, M.D.; Constitution of the Ohio State Medical Society, and Code of Ethics of the American Medical Association; List of Members.

Many of the foregoing papers are worthy of a careful reading, and the volume is highly creditable to the Society.

Editorial.

Explanation.—The reports of Dr. Jones on Otology, and Dr. Bogue on the Use of Plaster of Paris in Fractures, in the October number of the *Examiner*, should have been credited as read to the Annual Meeting of the Illinois State Medical Society, in May, 1870.

Exchanges.—We learn by our exchanges, that a new medical journal has been commenced in Philadelphia, called the *Medical Times;* and that another has been for some time past published at St. Paul, Minnesota. Having never been honored with a copy of either, we cannot give any description of them.

American Medical Association.—We see by our California and Oregon exchanges that the profession in those States is rapidly organizing new medical societies, or reviving old ones, and preparing to give their brethren from this side the mountains a cordial reception at the meeting of the Association next May. And, notwithstanding all the severe criticisms and carping which has been indulged in regarding the last meeting of the Association, we have no doubt but the coming meeting will be one of the most pleasant and profitable that has been held since the Association was organized.

INFLUENCE OF MUSCULAR EXERCISE ON THE URINE.

Dr. Austin Flint, Jr., read a paper entitled, "The Influence of Excessive and Prolonged Muscular Exercise upon the Elimination of Effete Matters by the Kidneys; based on an Analysis of the Urine passed by Mr. Weston while walking One Hundred Miles in Twenty-one Hours and Thirty-nine Minutes."

When Mr. Edward P. Weston was performing his great pedestrian feat, at the Skating Rink in this city, last May, Dr. Flint visited the rink near the close of the hundred-mile walk. He learned that, by chance, all the urine passed during the walk had been collected in a single vessel. This was placed at his disposal and subjected to a careful quantitative analysis. The observation being entirely unpremeditated, certain elements of scientific completeness were lacking, such as the exact amount of food and drink consumed, etc.; and the specimen of normal urine for comparison was necessarily obtained, not before the walk, but some three months later, when the conditions seemed perfectly satisfactory.

It was evident that an accurate comparison of the urine passed during such an enormous strain upon the muscular and nervous systems, under known conditions of diet, etc., with the normal urine under known conditions, would be of great importance to science; especially since the observations of Fick and Wislicenus, Haughton, and others, had tended to throw doubt upon the commonly received view that exercise increases the elimination of urea.

Mr. Weston is 31 years old; of medium height, rather slight; ordinary weight, without clothing, 122 pounds. From his professional occupation, his hours of sleep and eating are quite regular. He has never taken a course of "training," prepar-

atory to his feats of endurance. His general health is perfect. At the time of the walk he was in "fine" condition, and his weight was five pounds less than ordinary.

The conditions during the walk were, as nearly as could be ascertained, the following:

Weight of body, without clothing, 117 pounds.

Food and drink taken: Beef essence, between one and two bottles; oatmeal gruel, two bottles; sixteen to eighteen eggs, raw, in water; lemonade, half a pint; champagne, about three fluidounces; brandy, two and one-half fluidounces; water to rinse the mouth every few minutes, but little swallowed.

No sleep; no alvine evacuation; perspiration slight.

The urine passed during this time (counted as twenty-two hours) measured 73½ fluidounces (estimated for twenty-four hours at 80 fluidounces); acidity normal; color light canary; odor strongly urinous, but normal; specific gravity, 1011.55; no abnormal matters; microscopical examination negative. Analyzed by the methods detailed in the speaker's manual of the "Chemical Examination of the Urine," its composition per fluidounce was found to be:

Urine of Exercise per Fluidounce.

Urea	5.779 grs.
Chlorine	1.120 "
Sulphuric acid	0.920 "
Phosphoric acid (total)	1.504 "
Phosphoric acid (with alkalies)	1.280 "
Phosphoric acid (with earth)	0.224 "
Uric acid	0.500 "

The conditions during the twenty-four hours, 6 P.M. to 6 P. M., selected for collecting the standard specimen of urine for comparison, were as follows:

Weight, naked, 122 pounds.

Food and drink: Supper—Pickled lamb's tongues, warm light biscuit, one cup tea. Dinner—Cold corned-beef, hot bread-cakes, one slice bread, one cup coffee. One glass of effervescing root beer, and two cigars during day. Had eaten salt ham three hours before the beginning of the selected twenty-four hours.

Sleep between eleven and twelve hours; one alvine discharge (no urine lost).

The urine passed in the twenty-four hours measured 33 fluidounces; acidity rather faint; color light canary, slightly turbid; odor strongly urinous, but normal; specific gravity 1025.43;

no abnormal matters; decomposition rather rapid; microscopical examination showed slight excess of mucus, otherwise negative. Analyzed by methods identical with the last, the composition per fluidounce was found to be:

Urine of Rest per Fluidounce.

Urea	5.800 grs.
Chlorine	3.360 "
Sulphuric acid	1.440 "
Phosphoric acid (total)	0.960 "
Phosphoric acid (with alkalies)	0.640 "
Phosphoric acid (with earths)	0.320 "
Uric acid	0.680 "

The Urine of Exercise, calculated for twenty-four hours, is compared with the Urine of Rest for twenty-four hours in the following table:

Urine of Rest and of Exercise for Twenty-four Hours.

	Rest.	Exercise.
Total quantity	33.000 fl. oz.	80.000 fl. oz.
Urea	191.400 grs.	463.368 grs.
Chlorine	110.880 "	89.808 "
Sulphuric acid	47.520 "	73.776 "
Phosphoric acid (total)	31.680 "	120.600 "
Phosphoric acid (with alkalies)	21.120 "	102.600 "
Phosphoric acid (with earths)	10.560 "	18.000 "
Uric acid	22.440 "	40.080 "

After making all allowances for differences of diet and other conditions, the speaker concluded that the severe and prolonged muscular exertion must be credited with producing a decided increase in the amount of water eliminated by the kidneys; an increase of from seventy-five to one hundred per cent. in the amount of urea eliminated; a considerable part of the increase in the sulphates and phosphates; and an increase of about seventy-eight per cent. in the uric acid. The dimunition of the chlorides seemed pretty well accounted for by the diet.

For further calculations from the above data, and a more detailed statement of the points involved, we refer the reader to Dr. Flint's paper, which is to be published.*

The Society adjourned.—*N. Y. Medical Record.*

*It appears in the *New York Medical Journal* for October.—Ed.

POISONING BY CARBOLIC ACID, IN A CASE OF ACUTE ECZEMA.

Reported by T. G. RODDICK, M.D., Assistant House Surgeon, Montreal General Hospital.

Thomas Hobbs, æt. 80, was admitted into the Montreal General Hospital, under care of Dr. Fraser, on the 18th April, 1870, suffering from Acute Eczema, intense in degree, and affecting the whole cutaneous surface. The patient had been troubled with the disease for about five weeks previous to admission, and had been treated for scabies with the ordinary sulphur ointment. The arms, legs, and trunk were literally covered with the disease, and it had invaded his scalp for a short distance behind. He was very feeble, and indeed had to be assisted in and out of bed.

For the first three or four days after admission, he was ordered ungi. zinzi., to be applied over the diseased surface, twice a-day, and in the interim a tepid bath. This plan of treatment had no marked effect on the disease, so on the fifth day the dresser was instructed to apply on lint an ointment containing one part of carbolic acid to four parts of lard, over the arms and thighs, and to cover the whole with oil silk. This application was faithfully made about four o'clock in the afternoon, and at half-past five the nurse reported that the old man was dying. When seen, as he was almost instantly, he was found to be in profound coma, with the pupils firmly contracted; breathing stertorous; pulse weak, quick, and flickering; whole surface of the body livid; extremities cold; large quantity of mucus in bronchial tubes; inability to swallow; profound insensibility. The patients in the same ward had seen him, half an hour before, crawl out of bed, and, after sitting on the chair a few moments, fall to the floor apparently in a faint. He was lifted to his bed and taken no further notice of till the nurse gave the alarm.

It was thought that the extensive application of carbolic acid would account for his condition. So, accordingly, the dressings were instantly thrown off and the part washed thoroughly with soap and water. At the same time sinapisms were applied to his chest and the calves of his legs, and a blister to the nape of his neck; brandy was given as freely as possible, and a turpentine and castor oil enema. For the first hour his condition improved rapidly, but as soon as the stimulating effect of the brandy and sinapisms had passed off, he seemed to lapse into

his former condition. The symptoms varied in intensity from time to time, until ten o'clock, when he vomited freely, and from that time rapidly regained his consciousness and fell almost immediately into a natural sleep.

The odor of carbolic acid in the vomited matter was distinctly perceptible, but, unfortunately, none of the secretions were tested.

When fully recovered, the patient said that a very few minutes after the application of the ointment he experienced a peculiar burning, prickling sensation over the whole body, and that although he had the greatest desire to micturate, he could not pass a single drop of urine. He had no recollection of getting out of bed, and that he was in a faint when the patients found him on the floor there can be little doubt.

As to the disease it improved with marvellous rapidity, and although nothing was afterwards applied but cod liver oil, he was pronounced cured on the sixteenth day after admission, and has had no recurrence of the disease since.

Dr. Fraser, in a few remarks to the students, stated that the case is instructive in two respects: 1st. As regards the danger incurred by the extensive application of carbolic acid to the skin, when the cuticle is removed, as it always is in eczema, leaving the cutaneous absorbents and capillaries exposed, through which it is readily absorbed and produces its known depressing effects upon the circulation through the nervous system. These effects have also been occasionally observed to follow its injection into large abscesses. 2d. As regards its efficiency as a therapeutic remedy in eczema, in which disease, however, judging from its effects in the present case, it should be employed with caution, or to portions only of the diseased surface at a time, and its effects closely watched.

The action of the acid on the urinary organs which has been observed by others, was also pointed out, and so was the treatment which succeeded so well in combating the dangerous effects in the present instance.—*Canada Medical Journal.*

The Photographic Review of Medicine and Surgery, a publication now, for the first time offered to the profession, has for its object the presentation of the most interesting cases coming under notice. The *Photographic Review* will appear in numbers, every other month, each containing four photographic plates, with appropriate notes and remarks. Subscription, $6.00 per annum. J. P. Lippincott & Co., publishers, Philadelphia.—*Boston Medical and Surgical Journal.*

Mortality for the Month of September, 1870.

Accidents, by fire, Farwell building	5	Debility, general	9	Intemperance	5
" burned, clothes taking fire	1	Diarrhœa	29	Ischuria, renal	1
" blow from bat	1	" chronic	14	Kidneys, Bright's disease	1
" drowned	8	" & complications	4	Liver, disease & dropsy	1
" crushed by fall of stone	1	Diphtheria	20	" cirrhosis	1
" by fall	3	Dropsy, general	5	" hæmorrhage	1
" fracture of skull	2	" of chest	1	" Induration	1
" thrown from wagon	1	Dyspepsia	1	Lupus, exedens	1
" run over by "	1	Dysentery	32	Lungs, congestion	5
" railroad	5	" acute	1	" " and old age	1
" shot	1	" chronic	2	" hæmorrhage	1
" scalded	1	" typhoid	3	Mania, acute	1
Abscesses scrofulous	1	Entero-colitis	4	Manslaughter	2
" pulmonic	1	Enteritis	11	Metro peritonits puerperal	1
Apoplexy	5	Erysipelas	1	Meningitis	7
Ascites	1	" of leg	1	" cerebro-spinal	2
Bowels, congestion of	1	Fever, congestive	2	" tubercular	4
" obstruction of	1	" puerperal,	2	Neck, tumor on	1
Brain, congestion	6	" intermittent	1	Old age	5
" inflammation	8	" scarlet	5	" congestion lungs	1
Births, premature	27	" " complications	2	" and dysentery	1
Births still	49	" " malignant	1	Paralysis	1
Bronchitis	4	" typhoid	58	Pericarditis	1
" capillary	1	" typhus	1	Peritonitis & Ascitis	1
" chronic	1	Gastritis	3	Phlegmasia dolens	1
Cancer of breast	2	Gastro-Enteritis	4	Pharngitis & Bronchitis	1
" stomach	1	Hæmatemesis	1	Pneumonia	11
" uterus	2	Hemorrhage umbilical	1	" bronche	1
" neck	1	" internal	1	" typhoid	5
Carbuncle of head and back	1	Heart, disease of	1	Scrofula	1
Childbirth	1	" mitral valve, insufficiency of	1	Septiceamia	1
Cholera Infantum	99	" organic disease	2	Spina bifida	1
" morbus	1	" fatty degenerat'n	1	Stomatitis	1
Chest, gun-shot wound of long standing	1	" valvular disease	1	Suicide by arsenic	2
Consumption	35	Hemiplegia	1	Syphilis, secondary	1
Convulsions	65	Hepatitis,	1	Tabes mesenterica	33
Croup	21	Hernia, injuinal	1	Teething	9
" membranous	10	" strangulated	1	" & complications	8
Cynanche tonsillaris	2	Hip-disease	1	Tumor ovarian	1
Cysterarcoma & Dropsy	1	Hydrocephalus	7	Uterus, fibroid tumors	1
Development deficient	1	" acute	4	" hæmorrhage	1
		" chronic	1	Whooping-cough	7
		Inanition	13		
		Imflam. from biliary calculi	1	Total	691

COMPARISON.

Deaths in Sept., 1870, 691 | Deaths in Sept., 1869, 814 | Decrease, 123
Deaths in Aug., 1870, 1037 | Decrease, 346

AGES.

Under 1	229	10 to 20	36	70 to 80	16
1 to 2	143	20 to 30	65	80 to 90	3
2 to 3	34	30 to 40	41	Unknown,	1
3 to 4	12	40 to 50	39		
4 to 5	9	50 to 60	24	Total,	691
5 to 10	15	60 to 70	24		

Males,	389	Females,	302	Total,	691
Single,	534	Married	157	Total,	691
White,	684	Colored,	7	Total,	691

NATIVITY.

Atlantic Ocean	0	England	14	Nova Scotia	0
Bohemia	8	France	1	Switzerland	1
Canada	4	Germany	81	Scotland,	0
Chicago, Native	79	Holland	0	Sweden	20
Chicago, Foreign	329	Ireland	60	Unknown	6
U. S., other parts	79	Isle of Jersey	0		
Denmark	1	Norway	8	Total,	691

MORTALITY BY WARDS FOR THE MONTH.

Wards.	Mortality.	Wards.	Mortality.
1	5	18	53
2	13	19	14
3	21	20	12
4	13	Accidents	30
5	18	County Hospital	18
6	57	Home for Friendless	2
7	44	Hospital Alexian Brothers	1
8	64	Immigrants	13
9	49	Jewish Hospital	1
10	14	Mercy Hospital	3
11	20	Marine Hospital	2
12	32	Manslaughter	2
13	11	St. Joseph Orphan Asylum	6
14	12	Suicide	2
15	75		
16	40	Total,	691
17	44		

Secretion of Milk Restored by Electricity.—A married lady had had two children, and in each case the flow of milk was abundant. Had typhoid fever in August, 1869. Confined Jan. 8th, 1870, for the third time. Milk appeared in the breasts on the third day, but on the fourth it diminished, and for several days it was almost wholly absent. On the evening of the 13th, the interrupted current from a Farmer's battery was applied, for about $2\frac{1}{2}$ minutes, to one side of the breast, and then, for the same length of time, to the other side, the poles being covered with moistened sponge. Little pain and but slight redness accompanied the operation. The milk had increased very decidedly on the next morning, and after five days' use of the current, with a daily application, it was quite abundant. Reference was made to Dr. Barker's paper on this subject in the *New York Medical Journal.—Boston Medical and Surgical Journal.*

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ARTICLE XXXVIII.

A LECTURE INTRODUCTORY TO THE COURSE OF INSTRUCTION IN THE WOMAN'S HOSPITAL MEDICAL COLLEGE FOR THE SESSION OF 1870-71.

BY W. H. BYFORD, A.M., M.D., Professor of Clinical Surgery of Women.

LADIES AND GENTLEMEN:—The occasion of our assembling this evening is one of novelty, as well as interest. Our object is to inaugurate a Course of Lectures in a Woman's Medical College; to add another enterprise to the many in which Chicago is almost constantly embarking.

This is the first effort of the kind made in this city, and the interest attaching to it is commensurate with the importance of the welfare of the female sex. It is with a view to add to the usefulness, independence, and development of woman that this institution is designed and originated. The animus that actuates the founders of this institution is a hope to afford a new field for her capacities, a new object for her labor and ambition, an additional means by which she may elevate herself to a higher and more useful occupation, and, in every way, promote her welfare.

How far this hope is to be realized is to be determined by many unforeseen circumstances, but we believe it will be ful-

filled, because of the merits of the cause in which we are engaged.

In many of the large cities in Europe and this country, provisions have been made for the professional education of women. In St. Petersburg, Vienna, Paris, London, and Edinburgh, in the old country,—in New York, Philadelphia, and Boston, in the University of Michigan at Ann Arbor, and probably elsewhere in this country,—in some of these places, the male and female students assemble in the same lecture-room.

This is the case, or has been, in Paris, to some extent, if not altogether.

In most places, however, the two sexes now are provided for separately.

In the great Austrian University, measures have been taken recently to have a course of instruction given to women separately, which is intended to be as complete as the general course has been heretofore. In Edinburgh, a similar arrangement has been entered into, and our young, but vigorous and enterprising neighbor, the Michigan University, has followed the example of her illustrious seniors in this respect. There are, also, separate colleges intended exclusively for educating women in the profession of medicine in London, St. Petersburg, New York, Boston, and Philadelphia; and the unfortunate French Empress had enlisted some of the eminent medical men of France in the project of forming a woman's medical college in Paris. She was overtaken by her misfortunes too soon, however, to accomplish her purpose, but it is hoped that the idea will be developed into fact by somebody in that great country, where there are growing reasons why women should have greater facilities for earning an honorable living.

It would seem, in reference to the professional education of women, the conviction was becoming general that they should have opportunities of pursuing their studies separately. Hence, in places where the experiment of assembling persons of the two sexes in the same apartments has been made, a change has been effected.

If indeed our manner of social education is not wrong in

some of its most important particulars, we must recognize the indelicacy of teaching anatomy and physiology to men and women assembled in the same classes.

It is a subject of congratulation with the advocates of the education of women, that so many facilities have thus recently been added to those hitherto existing.

It is but a very short time since women were refused any opportunity of obtaining a good medical education. Now, however, there are medical schools enough to educate all who may wish to study medicine.

If we look at the history of the struggles of the three pioneer female students of medicine in this country, we can understand the terrible weight of prejudice that barred the road to their success. They were a brave little band, and deserve to be remembered as heroic examples in the road to progressive measures. Their names are: Elizabeth Blackwell, Sarah R. Adamson, and Emily Blackwell, all young girls with brave hearts. Miss Elizabeth Blackwell, who has grown gray under the weight of many cares and responsibilities, was the first woman who graduated in medicine in this country. After having studied for several years, she and her friends applied for her admission into many different medical colleges in the United States.

All the colleges in the large cities, as Boston, New York, and Philadelphia refused to accept female students. Some eminent professors in those institutions declared that it would be impossible for them to give an outspoken, full course of lectures to mixed classes. Others felt assured that it would be impossible to keep order at their lectures.

The three great objections—brought out by Miss Blackwell's efforts to be admitted to medical colleges—to women attending medical lectures with men were: 1st, that it was indelicate; 2d, would cause disorder; and, 3d, that women ought not to study medicine at all. These objections prevailed in all the institutions applied to, but the Geneva Medical College, then a flourishing school in Western New York. She attended two full courses of lectures in that institution, and graduated in a very

creditable manner. And, by-the-way, this is the only regular medical college that has allowed a woman to attend two full courses of lectures in the same classes with men.

Although this was the termination of many of her difficulties, many prejudices awaited her in attempting to establish herself in the practice of medicine. She has succeeded, notwithstanding all the difficulties that beset her, and is now enjoying a very lucrative business, alongside some of the great men of the profession.

Her example has done more toward encouraging women to study the medical profession in this country than the influence of any other person.

When, a few years later, Miss Sarah R. Adamson was passing through the same ordeal, to obtain a degree in medicine, she found the doors of the Geneva Medical College closed against female medical students, and in all America there was not one regular medical college that would accept her as a candidate for its honors, and, contrary to her wishes and those of her friends, she was obliged to take the alternative of abandoning the hope of graduating, or enter the Central Medical College at Syracuse, New York, an eclectic institution. She graduated at that school in 1851, and, after having attended the Blockley Hospital for a considerable time, commenced practice, and is now enjoying a good income. She has honored herself, her sex, and her profession, by becoming a wife and mother, and is now Mrs. Dolley.

Miss Emily Blackwell is remembered by some of the citizens of Chicago as having attended her first course of lectures at Rush Medical College. This venerable school of the Northwest was the second regular medical college in the United States to admit women to its classes.

Miss Blackwell was not allowed, however, to attend her second course of lectures in Rush Medical College. The Illinois State Medical Society, constituted then as now, of an influential assemblage of medical men of the State, rebuked the College by passing a vote of censure for admitting female students to the privileges of the profession.

It was not until after many fruitless efforts to gain access to college teaching, that she was admitted to the Cleveland Medical College. She graduated in that institution, after having attended one course of lectures, in the Spring of 1854.

After these three heroines had intruded themselves into the profession—for they certainly entered it against the declared wishes of nearly the entire profession—they were in a better position to fight the battles necessary to destroy the prejudices of society against the professional equality of the sexes.

The result of their efforts strenuously and obtrusively continued to overcome the opposition of society, the timid submissiveness of their own sex, and the honest conviction of medical men of their own complete superiority, is that these women now live to see every facility for educating women for the profession that they could desire.

When the circumstances now inaugarated, have worked their fullest effects, then we will be able to judge of the fitness, capacity, and the propriety of women becoming doctors in medicine.

It now, in fact, as it never has been before, becomes their fault if women do not succeed in the practice of medicine, as they can at present, realize the advantages necessary to place them on an equal footing with men, in obtaining a medical education.

Woman's fitness to practise medicine has not been fairly tried. Hitherto, as far back as history carries us, her opportunites have been very inferior, and, as a consequence, she could not develope her capabilities in this respect.

At no time or place until now, has she enjoyed equality with man in the facilities for obtaining a medical education. Until now, if received into medical colleges, she was made aware in no very delicate manner, that her presence was an incubus upon the teaching, and she has been obliged to obtain her professional education under circumstances that necessarily rendered it deficient.

It is therefore unfair to judge of her possible achievements by the individuals thus educated, residing and practising in this

or any other place. Not until she can have all the advantages of the other sex in private offices, in colleges, and hospitals, and receive the encouragement to develop her faculties fully, will it be reasonable and right to compare examples of the two sexes in the practice of medicine.

Heretofore she has been driven from one college to another when allowed to enter them at all; no medical college having the courage to execute its own wishes in receiving her, or entertaining her right to study and practise medicine.

None but heroines could surmount the difficulties constantly springing up in the way of her acquiring the knowledge necessary to practise medicine successfully.

Notwitstanding all these difficulties, we have some shining examples of success among female practitioners, in this country, as well as in the old world.

History too, is not entirely devoid of the evidence necessary to establish woman's claims to the right to be tried, before being denied the capacity to succeed in one profession. Some illustrious names stand recorded on her pages, that do honor to the profession. Two female authors in medicine have become classical by universal consent, they are Mesdames Boivin and La Chapellee. Although they may now be regarded as among the old authors, no work of any merit, is at present written upon Obstetrics or Diseases of Women and Children, but that contains quotations from both of them. The very latest and most popular work on Gynecology, contains quotations from both of them, as well as woodcuts representing diseased parts, methods of surgical procedure, and operations for the removal of morbid growths.

The members of the profession present, will understand the great honor such marks of approval from eminent men indicate.

Could any medical man be assured that his works and name would be held in the estimation which is attached to those of Madame Boivin, his ambition would be satisfied. Or that he would make as sure and durable an impression upon the literature of the profession, as Madame La Chapelle, he would hardly presume to hope for more.

It is not too much to assert that the impressions made upon the profession by these two immortal women are indellible, and that their names will never perish while the science of Gynecology is cultivated.

There have been many others, among the female sex, who have distinguished themselves, and there are others now laboring in our science, whose names will command enduring fame.

I could point to living women in this country who are prominent, and whose names will not be forgotten, while their eminent compeers continue to live in medical history.

This is surely an enviable record for woman, and will not fail to encourage the female medical students who are present to-night, to make such exertions as will secure like distinction and honor.

In regard to the fitness and capacity of women to compete with the opposite sex in the practice of the learned professions, we generally, I think, theorize ourselves into error. We assume that women are intellectually inferior to men, and thus reason upon the matter. The assumption being understood, our conclusions are certainly not ultimate.

If, *en masse*, there is any such difference, it can only be in the great aggregate.

If we take at random one hundred of each sex, and critically compare them, will anybody expect to find that there are not many women superior to many of the men in such an assemblage, and that with the same opportunities will they not excel accordingly. It is very evident, I think, in the sweeping decision of inferiority against the sex, we miss the opportunity to employ this talent and it is lost. Would it not be fair and right to throw sex out of consideration, and utilize the great amount of ability thus ignored?

Women thus superior, will acquire knowledge with more facility, and exercise it with more judgment than the great majority of men, and, it is reasonable to suppose, that impartial teaching and strict examinations will furnish sufficient test for this superiority.

If women cannot bear this test as well as men, if they cannot

acquire a thorough knowledge of all the branches of medicine, they will thus be prevented from entering the profession; and I think no gallant leniency should be allowed to operate in their favor in the green room, and permit them to pass without they are as well prepared as male students.

The courage of women to meet the grave emergencies of the profession, is often called in question. But look for the proof. Is it in the facts of the case, or is it not entirely theoretical again? I do not think that it is even theoretically probable that women may not make bold surgeons.

Is that strength of nerve that guides the mind and steadies the hand of the surgeon in his great exhibition of skill in operations, born of the same animal courage that makes the male brute the master of his female companions? No. It is a professional courage. Take the knife from the surgeon of the army and place it in the hands of the commanding general, and witness the courage of the veteran as he proceeds to amputate a shattered limb and secure the artery through which the life-blood of his patient is being wasted. The military bravery that sustains him in the destruction of his kind, is not the sort of courage to serve him in the humane process of saving life.

The courage necessary in the sick-room, in the presence of appalling accidents and death, comes from our complete knowledge of the situation and familiarity with the circumstances, and when we learn and at once comprehend the state of affairs, we shall soon possess the courage to meet the emergency, and repair the damages, without quailing or fear enough to impair our usefulness on such occasions.

As an evidence that education and habit engender the courage of the surgeon, witness the first operation of the young man after he commences his professional career.

He is never cool and steady, and any sign of trepidation or unsteadiness he may betray at first should not be set down as proof that he cannot become a steady and reliable operator.

I know living surgeons, who stand high as daring and steady operators, who frequently perform the most difficult and hazardous operations with coolness and composure, who trembled,

uncontrolably, at the cutting of a vein to bleed a man, or in lancing the gums of an infant, gave signs of trepidation in spite of their utmost efforts to conceal them. I am sure no woman could make a worse start in surgery than this.

I think there are some surgical operations to which the delicate tact of woman's hand is peculiarly adapted, and I will venture to say that in them she will some day achieve respectability at least.

It is not alone the female tyro who is afraid of blood. Only last winter, we had a gentleman in our college-class, who, although he repeatedly tried to familiarize himself with surgical operations, was as often driven from the room by a sense of faintness, as he witnessed the flow of blood under the surgeon's knife. And it is common to have one or more such young men as this in every medical class.

Women are the very best assistants in surgery. In New York and Boston, I know of two whose services are appreciated above those of any other assistants in the institution to which they are attached. I never knew a woman of intelligence and experience to shrink from the most trying positions near the surgeon, or fail him in his most difficult circumstances. It is stated that the first Cæsarean section ever performed in the Kingdom of Great Britain was done by Mary Donally, an Irishwoman, and I have been assured that the female practitioners and teachers in the medical colleges in the East operate with coolness and skill. I think, therefore, there is no good ground for doubting that women may be educated into the habits of bravery and steadiness of nerve necessary to meet all the emergencies of the profession, and that no greater number among them will fail in the hazardous duties of our calling than those of the opposite sex.

But their domestic duties are urged as an objection to educating women for physicians.

The present condition of society denies millions of them the opportunity of entering the domestic relations in a desirable manner.

This is a fact patent to the most superficial observer. The

disparity of numbers in the two sexes is well-known, while increasing thousands of voluntary bachelors make the disparity operate more against the inequality of the sexes. I need not dwell upon the different modes in which the extravagance, frivolity, and unreasonable exactions of society make matrimony impossible to a large part of the men and women of great cities, especially; these are well understood. From these facts, many women are free to enter avocations that are incompatible with domestic duties. Others prefer a state of celibacy as affording a felicitous independence of the social oppression, of which they have a right to complain.

Such will often wed themselves to the professions as a matter of choice. The physical incapacity resulting from matrimonial relations does not obtain in their case.

It is objected, that it is a violation of propriety for women to practise medicine, and some of the cowardly opponents, in proof, sneer at the female physician behind pictures drawn by their own impure fancy. They imagine a delicate woman entering the chamber of a sick man, and administering to him under circumstances unheard of and unthought of, save by persons of such depraved character as themselves.

The impropriety does not consist really in the position woman will take, but in the false position assigned her by the objectors themselves. Respectable and modest women will not enter a promiscuous practice among all sorts of patients, but they will seek some appropriate speciality, and mostly confine themselves to the diseases of women and children. To this last specialty, they will generally confine themselves, and in it there is a demand for them.

How many ladies there are, who, under certain circumstances, would much prefer to be attended by their own sex, if they could feel assured of the skill and capacity of their attendants?

That there is a demand for practitioners of this sex is proven by the great number now employed, most of whom are uneducated and entirely incompetent for the position they assume.

Multitudes of women are now suffering from diseases that are rapidly making inroads upon their constitutions, because of the

delicacy they feel in approaching medical men upon the subject of them. They often thus bear their ills for years, when they would willingly avail themselves of skilled attendance from their own sex.

I am aware, as it is often said, that many ladies choose to employ medical men to female physicians, but this preference arises from the confidence which the *hitherto* superior education of the former has given them and not from actual preference for the opposite sex in such relations.

For several years female medical students have been increasing in numbers. Encouraged by the success of those who have been successful and are enjoying the fruits of a good practice, they have been making application for admission to medical colleges for instruction; and, as is well known, several institutions have received them in their classes. After a trial of one term, the only regular medical college of this city, that has recently made the experiment, decided against the propriety and expediency of teaching all branches of our science to ladies and gentleman assembled in the same classes, and the officers were directed not to receive any more female matriculants.

The indefatigable, if not indomitable medical attendant of the Woman's Hospital of Chicago, finding her darling project for educating women for the profession thus unexpectedly frustrated, after due deliberation and consultation with her friends, inaugurated measures which have resulted in the enterprise we represent to-night.

This would have probably been impracticable, if the Woman's Hospital had not been in existence, and the profession has been witness to the efficiency of woman's labor in connection with it.

The Faculty of the College is composed largely of the consulting staff of that Hospital, and the members of it hope to be able to avail themselves of the advantages afforded by that instution for teaching.

It is deemed desirable, in fact, to identify the interests of the two, by making them mutually beneficial.

The plan of organization of the Woman's Hospital Medical College, is essentially that of the best medical institutions in

the country. There are fourteen professorships, in which are included those of Anatomy, Physiology, Pathology, Chemistry, Materia Medica, Surgical Anatomy, Principles and Practice of Surgery, Theory and Practice of Medicine, Obstetrics, Diseases of Women and Children, Hygiene, Medical Jurisprudence, besides clinical teaching in all the practical branches.

The students will have access to the clinical teaching and lectures of the Cook County Hospital, and the Hospital for Women and Children. Two of the professors of this College are on duty at the County Hospital, Dr. Bogue in the Surgical Ward, and Dr. Fitch in the Obstetric and Gynecological Wards.

To such as are familiar with the subject, I think the plan of organization and clinical advantages afforded the students of this institution, will guarantee success and command approval.

The lecture term is twenty weeks long, and there will be six didactic lectures daily during that time, in addition to the clinical lectures given weekly at the County Hospital. It is also expected that the students will be able to attend the teaching of the Chicago Eye and Ear Infirmary, under the care of Prof. Holmes.

If I may be allowed to speak of the personnel of the Faculty, I think I may assure you that all the members of it are scientific and trustworthy. As will be seen, with one exception, they are men instead of women, for the reason that a sufficient number of the latter, with ample acquirements and experience, could not be procured to fill the places.

I feel assured that every one of them is in full sympathy with the movemement, and will labor industriously and earnestly to forward the interests and contribute to the instruction of the students who may entrust themselves to their guidance. Some of the professors are veterans, ripe in years and experience, and all are good, reliable teachers.

The requirements for graduation are such morally, and professionally, as are adopted by the medical colleges of the highest grade in the United States.

That they will be enforced, I have no reason to doubt, and I fully believe that all but thorough and competent students will

fail to pass the examinations, and receive the honors of the institution. From these facts I think the community need have no fears, but that the graduates of this College will be competent to practise their profession efficiently, and in accordance with the most recent improvements in our science.

For this present session, we are provided with temporary rooms of the most economical character. They are, however, sufficient for the accommodation of the classes at present, but if prosperity attend our efforts, permanent apartments must be furnished in the future.

Shall we succeed?

It seems to me that this is an enterprise in which every true woman in Chicago should feel a deep and permanent interest. Can we not expect reasonably, that the ladies of this City will make the success of the Woman's Hospital Medical College, a common cause with us? We expect them to be stimulated by a determination to secure the success of this institution, for the purpose of demonstrating to skeptics, the capacity of woman to compete successfully for honor and emolument in the profession with men, that their own sex need but an opportunity to rival the best of the physicians of the present times.

We here, therefore, in the presence of this audience, formally dedicate the Woman's Hospital Medical College of Chicago, to the ladies of Chicago, and appeal to them to be our friends and foster-patrons. We ask them to take these sister institutions thus associated, under their guardianship, as affording one of the best means for advancing the interests of womankind in this locality.

In thus appealing to the ladies of Chicago, we do not intend to ignore the benevolence of the large-hearted gentlemen of the City, we hope they will remember with kindness this estimable cause, and come to the aid of their wives and daughters in this enterprise.

To the medical students present, who are visiting the City for the purpose of attending the Woman's Medical College; in behalf of Faculty, I am commissioned to tender a cordial welcome. I am authorized to assure you that all the members

will interest themselves in your welfare during your stay here.

They desire to be considered your personal friends, who are ready to aid you in your studies, and advise you in all matters of interest to you.

It is believed that the arrangements made for your accommodation and teaching, will afford you every facility for obtaining a thorough knowledge of your profession. And it is hoped that each one of you will feel personally pledged, not merely to equal, but to excel in zeal and acquirements, the students assembled in other medical colleges in this City.

Your examples as students may stimulate others to higher attainments, correctness of deportment, and the manifestation of a laudable ambition in elevating themselves to high positions.

Let the responsibility you have taken upon you to represent your sex in stepping out from the ordinary walks hitherto allotted to you, be felt by each one of you, and so appreciated as to actuate you to earnest and energetic efforts in attaining to a thorough knowledge of the profession of medicine.

Thus you may honor your sex, your profession, and yourselves.

ARTICLE XXXIX.

CLINICAL EXPERIENCES IN PRIVATE PRACTICE—THE CURATIVE RELATION OF VACCINATION TO WHOOPING-COUGH, WITH CLINICAL CASES.

REPORT OF COMMITTEE ON NEW REMEDIES TO THE MUSKINGUM COUNTY MEDICAL SOCIETY, AT NOVEMBER SESSION, 1870.

By Z. C. McELROY, M.D., Zanesville, Ohio.

No special novelty in the therapeutical world has transpired during the past month, though the demand for new remedies by the profession has by no means fallen off. The career run by different new remedies is as diversified as that of different men, having an apparently equal start in the race for life. Some require many years to get even a recognition in pharmacopias;

while others, as chloral, fill the world of mind in both hemispheres of the globe, in a few days. The career of chloral has been as remarkable as that of Protoplasm. *The Methodist Quarterly Review* for October, says: "It is a signal proof of the brilliant genius and eminent standing of Prof. Huxley, that in one fortnight he was able to install the term 'Protoplasm' among the key words of the English language, and to fill the higher mind of the world with excitement at its alarming import." The belief in the celestial origin of man, at least among animals, had, up to a few years since, never been questioned by any man of science, having sufficient standing to command, even for a single moment, a casual readers attention outside of his own neighborhood. Hundreds of thousands of the best cultivated intellects of the civilized world have not only read, but pondered, Huxley's remarkable lecture on "Protoplasm, or Physical Basis of Life," published in London, only eighteen months since, and delivered to an Edinburgh evening audience less than two years ago! Life the result of physics! What a startling announcement? And how natural that the cultivated mind of the world should be filled with excitement at its alarming import. The theological mind felt that the very foundations of religious belief were again threatened by science. The higher medical mind was not slow to see that it was the handwriting on the wall foreshadowing still greater changes in medicine as now taught the world even in schools, and practised, alike by regulars and irregulars. Changes so important are very properly interpreted as meaning that men must speedily occupy the upper seats in the world's great medical Sanhedrim. Reputations which were believed to be world-wide, and secure beyond any contingency, it was clearly seen must undergo immense shrinkage and modification.

The effect is already beginning to be seen in medical periodical litenature. The paragoric-good-for-a-child's-belly-ache-style of reports of cases are occasionally relieved by those reporting temperature, circulation, and respiration, to the exclusion of vague speculations concerning the vital force. Time will not be long in disclosing whether the profession will fall into line with

the world's progress, or cling to the *status quo* till a great schism thunders its lesson in their ears.

My purpose this month is to invite your attention to the curative, or remedial relations existing between vaccination and whooping-cough.

That "vaccination is good for the whooping-cough," using recognized modes of announcing the curative properties of any agency, or measure, would not likely fall now upon your ears for the first time.

Before any of us began to practice, or even study our professions, it was lauded as a specific, tried in a Paris hospital, failed, and was dropped out of medical literature; for vaccination is not even mentioned in the most recent works on general practice, or the special management of the diseases of childhood, as a proper remedial measure in the professional management of Pertussis. In one of those just superceded by later authors, "Churchill's Diseases of Children," the American editor, Dr. Keating, of Philadelphia, says, in a note: "I have tried vaccination in several cases, (of whooping-cough), and have every reason to be satisfied with the result, having found it to modify both the severity and length of the affection."

This, it appears to me, is a correct statement of the present condition of professional judgment in regard to vaccination as a remedial measure for whooping-cough. Tried, succeeded sometimes, and in some hands, and, perhaps it ought to be added, under some circumstances. In other hands, and under different circumstances, it has apparently failed, and stands now as one of those dernier resorts when all other things have failed.

What is whooping-cough? With the anterior phenomena, and some of the interior disclosed by autopsies, most of us, are, perhaps, familiar.

Medical authors of the first half of the present century were fruitful in hypotheses, speculations, and conjectures to account for the phenomena. Spasm of the air-passages had a formidable list of supporters. Inflammation of the lining membrane of the air-passages had hardly a less numerical array of influential advocates. Then a third class mixed spasm and inflamma-

tion together, and claimed that as the only hypothesis which would account for the phenomena. A somewhat older class of medical authorities referred it to irritation of the stomach and lungs. By Sydenham and his cotemporaries it was ascribed to a physical or chemical irritant, introduced from without into the larynx; or generated within, and produced its peculiar effects on its way to the outside through the breath. Various were the shades of difference between the pathologists of the last two centuries, some referring it to a miasm, others to minute insects, etc., etc.

The very latest authorities of our own times dispel these conjectures, hypotheses, and speculations, and simply state it to be due to a specific poison, and place it in the same class as smallpox, measles, scarlatina, etc.; contagious, and infectious, and communicable from one human being to another; having a definite course to run, like them, ending in apparently complete, or incomplete recovery, and sometimes in death.

Discussions, based on the exterior phenomena presented by the human body, whether physiological or pathological, it is thus seen, might go on forever without arriving at conclusions which would satisfy any considerable number of men, for any length of time, even if they should escape being toppled over by some advance of science. The conjectures, speculations, or hypotheses of to-day, will in their time give place to the products of some exhuberant immagination to-morrow, and so on indefinitely forever.

Supposing that modern molecular science, which traces the combinations of atomic particles of inorganic matter through various stages of complexity, up to molecular forms of organic structures, is the ultimate simplicity to which science can carry us in the study of organic life, it is very interesting to note, in the study of the varying ideals of the pathology of whooping-cough through two centuries only, how near Sydenham came to the naked scientific reality, having just missed it by regarding it as a local disease. Combining the pathology of Sydenham with that of Aitkin, and the result accounts, scientifically, for all its phenomena. The idea of the local nature of disease is

now the greatest barrier in the way of progression to scientific pathology.

Molecular physics, rejecting all hypotheses, speculations, and conjectures concerning the human body, seeks explanations of its varied phenomena in the molecular forms of its varied structures and viscera; tracing inorganic matter through its various chemical transformations, from the inorganic world, up to organic forms of structure, in which it finds conserved the energy evolving all its phenomena, mechanical, chemical, thermal, emotional, sensory, intellectual, and physiological. In ever narrowing circles, the added facts of life, or the facts of the physical organization of the human body, have at length identified its physical and psychological unities.

These are, 1st, inorganic material; 2d, organic forms; 3d, motion, or chemical changes in the molecular forms of structure. In material, the human body is composed of certain inorganic elements, definite alike in number and relative proportion. These definite materials, by the earths forces, are worked into, first, vegetable organic forms, which, as the starting point of animal life, are by the same forces worked into definite molecular forms of structure for each function evolved. Function is therefore, the molecular forms of structure speaking, and depends on changes of matter.

In the pathological state of so-called whooping-cough, is function changed? Most assuredly, as the cough, the wasting, loss of molecular forms of structure, in the lungs and brain, and death, as a too frequent result, clearly demonstrates.

Going down to the bottom of simplicity in reference to chemical and mechanical effects on a physiological human body, it is found only possible to do three things by any means, or mode of force whatever. These are, to accellerate or retard motion, or chemical changes, and change organic forms.

In reducing the phenomena of whooping-cough to ultimate simplicities, or unities, it seems to me this statement covers all the symptoms. Motion in the interest of repair retarded; motion in the interest of waste accelerated; and the molecular forms of structure undergoing changes. It is, then, by modern

pathologists, very properly classed among the so-called exanthemetha as small-pox, measles, scarlatina, vaccina, syphillis, etc., and differs from either of them only in the extent and velocity with which its mode of force interferes with normal forms and motion.

The cotemporaries of Sydenham had a nearer conception of the cause, and the *modus operandi* of virus, or form-changing mode of force, on which whooping-cough depends, than any pathologists down to the present time, *viz.*, a physical or chemical irritant—and if there is any conception with which the term irritation is coupled, it is to disturb both motion and form.

The duration of whooping-cough, that is, the length of time requisite for it to complete its form-changing work in any given human body, is by no means fixed; for who can assign to it limits such as he could, with the utmost confidence, to measles, cow-pock, scarlatina, or small-pox? On the contrary, its motion is so slow, and interfered with by so many physical contingencies, as the condition of the earth's force, age, etc., that no one feels safe to assign limits, except vaguely, to its probable duration in any given case.

The list of remedial agencies recommended by famous authorities during the last century is very large, and includes some with very opposite properties. Those employed commonly had some correspondence with the hypothetical views of its pathology. Then, those who regarded it as inflammatory, made use of antiphlogistics, bleeding, calomel, and antimony. Those who regarded it as spasmodic, prescribed mainly the so-called anti-spasmodics. For the mixed pathology, these remedial agencies were commonly combined. The means pointed out by the most modern authorities are, for the most part, hygienic, using mild eliminators, and those remedial agents which retard motion in the interest of waste, commencing with chloral, taking in opium and belladona, and ending with camphor. While the eliminants commence with emetics, and wind up with calomel, blisters, and cantharides. The gaps in such plans of treatment are occasionally filled up with agents accelerating repair, as nitric acid, oxides of zinc and arsenic. Lastly, all these

failing, change of air,—more ozone to burn up dead tissue and quicken motion; or the ammoniacal atmosphere of gas works, which does about the same thing.

Aitken, a very late English authorithy, states "that small-pox and whooping-cough may co-exist in the same person; and a very common and fatal combination is measles and whooping-cough. Whooping-cough," he goes on to say, "and cow-pock are not unfrequently combined. Indeed, the lower classes erroneously look upon vaccination as in many instances a cure for whooping-cough."

It was " common people" who believed, because they knew from experience, the court of last resort in the profession, that cow-pock protected them from small-pox, and just such men then, as Aitken is now, fought poor Jenner for twenty years, because he had experimented with cow-pock, and demonstrated that the belief of the common people was right, and, therefore, urged vaccination on professional attention. He was hounded out of all medical societies, and almost out of human society, for his alleged heresy. But Jenner still lives, which can hardly be said of any of his persecutors.

Though vaccination has been fully acquiesced in as a complete protection against variola for half a century, doubts of its efficacy and propriety have recently arisen in the public and professional mind, and it is again up for discussion and settlement at the bar of public and professional opinion. No result has, as yet, been reached, but it is clear that vaccination has materially declined in public estimation within a few years.

But the power of vaccination, under some circumstances, to protect against small-pox is as well established as the law of gravity. Vaccination is a smaller evil, accepted to protect against a greater.

Every mode of force, as the virus of insects and serpents, small-pox, scarlet-fever, measles, vaccination, and in this category, the mode of force producing the phenomena called whooping-cough must be placed, produce these effects in the human body by changing the molecular forms of structures, the duration of the phenomena depending on the velocity of motion

by which this is accomplished, as measured partly by the heat evolved as shown by the thermometer.

And, among their results in the human body, it appears probable, will be found explanations of the so-called idiosyncracies, or individual peculiarities, as well as some peculiarities of mind and morals, manifested later in life as well,—that is to say that the peculiarities of body, as well as of mind, observed in some human beings, before, as well as during adult life, will ultimately be found due to changes of molecular forms of structure by these eruptive and non-eruptive form-changing diseases, some of which, as whooping-cough, are mainly passed through during child-life.

Aside from the results of empirical experience in regard to the so-called curative power of cow-pock over whooping-cough, that result could be predicted by philosophy and molecular science, just as chloral was worked out in the mind of Deibriech, in advance of empirical experiment. Whooping-cough is due to a mode of force whose velocity is very slow, extending over from one and one-half to several months; while cow-pock has a velocity very uniform at all stages of life.

That it should be able to communicate a higher velocity, in fact its own velocity, to whooping-cough, is altogether probable, aside from its repeated demonstration by experience.

Guided by these general principles, it seems not improbable that most of these formidable form-changing modes of force may ultimately be so antagonistic as to materially modify their results in the human body. Prof. Boeck's proposal to treat syphilis by repeated inoculations by the syphilitic virus is strictly philosophical, because, in that way, he communicates a higher velocity to the changes, and secures, in a few months, results which should otherwise be spread over, in most cases, the remainder of life in each individual case. Had he turned his attention to other organic agencies increasing the velocity of motion of syphilis, much greater results might have been reached. This seems all the more probable, as all the recognized successful remedial measures for syphilis have for their end simply increase of motion, both in the interest of repair and waste.

The following clinical cases, treated during the present year, may serve to show that the motion of cow-pock can be successfully employed to increase the motion of whooping-cough, terminating both simultaneously.

The family of Mr. D. H. K., market-gardener, living five miles down the river, in common with many other families, both in the city and country, contracted whooping-cough early in the summer. It seems to me there were six of the family suffering from it at the same time. The youngest child, a year old, perhaps, became very sick, so much so as to impress the parents with doubts of his recovery. Without seeing it, the emetic, purgative, and anodyne plan of management, so-called, had been prescribed for several weeks. He became so seriously ill that his parents thought it best for me to see him. He was found very unwell, breathing very rapid and short, pulse rapid and thready, and a range of temperature, by thermometer, much above natural, though not recollected, precisely; think it was $105\frac{1}{2}$. I gave him 15 drops tinct. ver. veride, and, as no effect was manifest in half an hour, a like dose was repeated. This was given to check motion and procure prompt elimination from his lungs, as well as stomach. The sickness and vomiting lasted about an hour and a half, during which his head was kept very low, so as to facilitate, by gravity, the elimination of the matter with which the lungs seemed materially loaded. The improvement in his breathing and pulse was very marked at the close of vomiting, so that he soon dropped off in a sound sleep. No other treatment was prescribed that day, but a dose of castor-oil when he woke up and nursed. In three days, I went down, expressly to vaccinate Mr. K.'s family. Three of the older children had been vaccinated several years previously. But all suffering from whooping-cough were inoculated; and, strange to say, all had sore arms in due time, those previously vaccinated running through the stages in about a week, while in the remainder the usual two weeks were occupied in getting through with it. When they had recovered from the vaccination, the whooping-cough had disappeared. By a previous arrangement, the children of Mr. J. D., living two miles from

Mr. K., were to meet me there, to be vaccinated for the same purpose, but did not get there until after I had left. Two of them were brought to my office a few days after, and were vaccinated. At a proper time, one of the pocks was ruptured with a common sewing-needle, by the mother, and inserted in the arms of the remaining members of the family. In reporting to me afterwards, the mother said she had no whooping-cough after the children recovered from the vaccination; that they were all very sick, and she thought I had used very good matter.

Several of her neighbors obtained crusts from her, and used them, and, in all, the whooping-cough and vaccination disappeared together. Quite a number of other cases, isolated, were managed in the same way, and with the same results. This is only the present year's experience, and there were no failures.

In past years cases were so managed, but not so intelligently, and, so far as memory serves, with hardly the same uniform success.

I conclude, therefore, as well from the results of experience, as philosophical considerations, that in cow-pock we have the means of hurrying a majority, at least, of cases of whooping-cough through its stages within the two weeks occupied by the former; and it is worth while to consider whether vaccination should not always be delayed for the purpose, unless imperatively demanded by other considerations.

And there may be some conditions needful to obtain a large average success, which I have not identified, but which can doubtless be made out, if looked for by competent observers.

To Detect Uric Acid in the Blood.—Dr. Garrod's ingenious plan of detecting uric acid, which is always in great excess in gout, is as follows: It consists in obtaining the crystals of uric acid on a thread placed in a mixture of the serum of the blood, or of the fluid from a blister, with acetic acid, in the proportions of six minims of the acid to each fluid drachm of the serum.—*Richmond and Louisville Medical Journal.*

ARTICLE XL.

OPIUM IN METRO-PERITONITIS.

By THEODORE GRIFFIN, M.D., 529 State Street, Chicago.

Appreciating the fact that it is only by recording and giving to our brethren the results of carefully-observed experience in the treatment of disease, that true and reliable progress is made in therapeutics, I offer for consideration my record of the following case of metro-peritonitis, treated with opium.

I present it briefly and without comment, as a link added to the chain of evidence in favor of the use of opium in this fearful disease. I was led to the employment of large doses by the plain indications to be fulfilled, which, I know the physiological effect of opium would meet, bearing in mind this fact, which I think should become an axiom: *if indications are scrupulously met in treatment, no drug poisoning, with its disagreeable and dangerous perturbations, will occur, howsoever large the dose of the drug may be.* It is a lamentable fact that indications are often *more than met*, as occurred at the close of this case through the ignorance of the nurse. * * *

On the 16th day of June, 1870, I attended Mrs. ——— in labor. She says that after previous labors, numerous clots of blood were always expelled from the uterus; after this labor, none were expelled.

On the 17th, she complained of severe pain over the region of the uterus, especially upon the right side, describing it as sharp and lancinating. She had, on this day, a severe chill; her tongue was covered with a white fur; her bowels were constipated; her pulse 90, and bounding. She had, also, headache and aching of the limbs. These symptoms, however, yielded to a little mild treatment, and on the evening of 19th, she felt, as she expressed it, and as her symptoms indicated,—"quite well."

On the morning of the 20th, at 3 A.M., more lancinating pains began in the uterus and over the abdominal region,

accompanied by all the initial symptoms of metro-peritonitis. I immediately directed that she have *one gr. of opium every hour.* The pain continued unabated until 9 o'clock P.M. At this time her appearance indicated great suffering; her nervous system was disturbed and agitated; her tongue coated with a dirty black coat; there was nausea and vomiting, with fetid and dark-colored discharges from the bowels; the slightest touch or motion produced the most intense pain; the abdomen was distended to its size immediately previous to confinement; her pulse was 110. I now gave *three grs. of opium* at one dose, and ordered *one gr. to be given every half-hour.* At 8 o'clock A.M., (21st), her pulse was 94, her tongue was still black, but somewhat improved; no more vomiting nor fecal discharges since my last visit; the pain was yet severe. I now gave *four grs. of opium at one dose,* and ordered *two grs. of opium to be given every half-hour.* At 11½ o'clock A.M., her pulse was 100; the pain was still unabated; no signs of opium poisoning. She has passed no urine since 12 o'clock last night; the mammary secretion was now gone, and pus discharged continuously from the vagina. I ordered *five grs. of opium to be given every hour.*

At 4½ o'clock P.M., (21st), nervous symptoms were better, she had less pain and rested comparatively easy; some subsultus tendinum. I now directed *three grs. of opium to be given every half-hour,* and drew her urine with the catheter. At 10 o'clock P.M. she rested well, there was now no subsultus; she had now some inclination to sleep; her pupils were natural and her pulse 100; continued the opium, three grs. every half-hour. At 11 o'clock P.M. she slept for the first time since her illness began; at this time I left her for the night, directing the nurse to discontinue the opium if she awoke without pain, and with an inclination to sleep. At 2 o'clock A.M., (22d), she awoke, bright, intelligent, and free from pain, and, as she told the nurse, *feeling well.* The nurse, however, continued the opium as before, *three grs.* every half-hour. At 5 o'clock A.M. I was called to her in great haste, and found her narcotized, breathing stertorously with contracted pupils; these alarming symptoms, resulting from the *indications being more than met,* quickly dis-

appeared with appropriate treatment. She soon became conscious, convalescence being established from that moment. There remained some tenderness on pressure over the region of of the uterus, but the distention of the abdomen had entirely disappeared with all the symptoms pertaining to the digestive and nervous systems; her pulse was natural, and her restoration to perfect health was rapidly completed.

* * * * * * * *

The amount of opium given is presented in the following summary:

From 3 o'clock A.M., 20th, to 9 P.M., 18 hours, 18 grs.; from 9 o'clock P.M., 20th, to 8 o'clock A.M., 21st, 11 hours, 23 grs.; from 8 o'clock A.M., 21st, to 11½ A.M., 3½ hours, 18 grs.; from 11½ o'clock A.M., 21st, to 4½ o'clock P.M., 5 hours, 25 grs.; from 4½ o'clock P.M., 21st, to 10 o'clock P.M., 5½ hours, 33 grs.; from 10 o'clock P.M., to 11 o'clock P.M., 1 hour, 6 grs. Total—44 hours, 123 grains.

At 2 o'clock A.M., 22d, 6 grs. The last 6 grains produced the narcotism.

No other drug than opium was administered during the entire course of the disease.

Proceedings of Societies.

PROCEEDINGS OF THE CHICAGO MEDICAL SOCIETY.

CHICAGO, *November 7, 1870.*

Dr. E. L. HOLMES reported a case of disease of the eye, in which, at first, the lens, by some wholly unaccountable means, passed out of its capsule into the anterior chamber. It afterward, somehow, replaced itself; was found within its capsule. Later—two years ago—the lens fell forward again, and became attached to the iris, probably by inflammatory adhesion; there it underwent calcarious degeneration, so that at the time of the recent treatment, it was perfectly opaque. There had been,

during the two years, constant pain, of a most excruciating character, which no sort and no amount of anodynes in the hands of attending physicians have been able to control, and hardly assuage. The cataract was extracted, and a portion of the iris removed likewise, and the patient made a rapid recovery, and the neuralgic pains entirely ceased.

Dr. H. reported another case very similar to the above. The lens became detached from its capsule and floated in the aqueous humor, passing in and out of its capsule repeatedly, but finally underwent calcarious degeneration, and remained then in the anterior chamber. It gave rise to the same agonizing pain. On extraction the pain ceased, and the patient recovered.

Dr. J. G. Fredigke remarked that patients not unfrequently have cataract in one eye, which entirely disables it for purposes of sight, yet, owing to its insiduous and slow growth, they are not aware of the fact until told of it or made to understand it by being asked to close the well eye and see with the other. He had seen a case of this sort.

Dr. Holmes said he had repeatedly seen cases of this kind. The patients are aware that something is the matter with their sight, but, from always opening and closing both eyes at the same time, always closing both—indeed, when some irritating body suddenly strikes one or when rubbing or wiping one, they never become aware that one is wholly blind until informed of it. One patient of his had nearly fainted when made aware of such a condition.

Dr. H. W. Boyd said strabismic patients often lose the sight of the unused eye without being aware of the fact, and are only made conscious of it when, being operated upon, they endeavor to see with the affected eye.

Dr. Fredigke reported a case of fracture of both bones of the forearm at the centre—the ulna being fractured in two places, an inch apart, in a child five or six years old.

The usual retaining apparatus was applied, and union took place in twelve to fourteen days, when the splints were removed. During this time officious parents, contrary to the doctor's directions, themselves loosened the dressings, to relieve

the child from suffering; the result of this was that the ulna was slightly bent, and remained so when it solidified. This caused the parties to be dissatisfied with the treatment.

Dr. N. S. Davis urged that surgeons should be more explicit in their directions not to have their dressings of fractures interfered with. Patients should be made to understand that any failure to carry out the surgeon's directions entirely released him from any responsibility in the case; and surgeons should, for self-protection, have more professional friends witness their cases after they have been tampered with by patients or nurses.

The President said that he did not believe perfect bony union could take place in a fractured bone of a child, even, in fourteen days; the case reported as such must have been one of firm cartialginous union, for bony union never takes place earlier than three weeks. He had himself charged a patient with fracture of the tibia near the ankle, which had been in splints 30 days, on putting on a starch bandage, that he must, when sitting down, with his limb at rest, not to allow the heel to hang over the chair, lest the weight of the foot should cause bending of the bone at the point of injury. The patient disregarded his injunction, and the leg became crooked.

Dr. Davis then related a case of supposed heart-clot and embolism. The patient was a Swede, a young man strong and healthy, usually; he was attacked with pneumonia, which involved almost, or quite, one entire lung. All the physical signs, both on percussion and auscultation, indicated this condition, as well as all the symptoms; and the prognosis was very unfavorable.

But the patient, for several days, made steady improvement, when, all at once, both arms began to be tumified below the centre of the biceps muscle. Very soon they were both enormously swollen, and œdematous, and there was no pulse perceptible in the right wrist.

A feeble pulse could be felt in the left arm, and pulsation of the axilary arteries was palpable.

The heart indicated great labor, and strong effort on the part of that organ to force the blood through the system. He com-

plained once or twice of difficulty in seeing. In two days, the lower limbs became swollen in the same way as the arms; this, however, occurred only below the knees.

For five days the patient improved; the tumifaction in the arms subsided, yet in the right there did not appear any pulse at the wrist, while in the left this was perceptible all the time. Very soon the legs began to show signs of improvement. The patient was improving rapidly in other respects, and was able to converse freely.

In three or four hours from the last visit, the patient was found by his nurse, after a few moments absence from the room, with the face perfectly urgid with blood, and he gasping for breath. In this state he died in a few minutes.

No *post mortem* examination could be made.

He reported another case of embolism in a young girl, who was recovering from typhoid fever. She had manifested during the fever symptoms of weakness and inefficiency of heart's action, and had been taking mineral acid and strychnia.

When raised up, she gave evidence of syncope, yet convalesced steadily until able to sit up, when she complained of pain in the right gluteal region, rather over the gluteus maximus, and, almost coincident with this, her leg began to swell, and became, ultimately, much tumified and œdematous. This remained some days, when it began to subside, and was, at this time, slowly disappearing.

CHICAGO MEDICAL SOCIETY.

November 21, 1870.

President, Dr. T. D. Fitch, in chair.

Dr. Reid reported a case of spurious pregnancy in a woman of 32 years. The patient had borne two children, the youngest nine years before, and was pleased at the idea of being pregnant. Her menstruation did not wholly cease, but decreased very much. The fact that women do sometimes menstruate when pregnant was explained to her. Her abdomen enlarged, and after about four months she felt, as she supposed,

the movements of the child. Her general health was good, bowels regular, and mind tranquil. When her nine months arrived, she had no symptoms of approaching confinement. At ten months, Dr. R. was sent for, to determine the reason for the delay. He found her enlarged to the size usual at term, but, on examination, the uterus was found not enlarged, and he stated to the woman that she was not pregnant. This she would not believe, because she had felt, for months, distinctly, "the motions of the child," which were exactly like those experienced during former pregnancies.

There could be found no tumor of any circumscribed or well-defined character, in the abdomen; there was no fluctuation; but a distinct tympanitic sound could be heard on percussing over parts of the abdomen. There could be learned no general symptom that could indicate the existence of a tumor of any sort.

After a short time, she began slowly to decrease in size, and in a few more months, was little larger than normal. What was the cause of the enlargement?

Dr. Marguerat had seen a case somewhat resembling this. A very fleshy woman stopped menstruating, and began to enlarge. She was told by one or two physicians, whom she consulted, that she was not; yet she was herself certain of it, having felt, as she supposed, the motions of the child.

The Doctor was called suddenly to attend her, labor having, as it was supposed, begun. A large amount of blood was being discharged per vaginum, and nothing else, and there was no pregnancy, which divulged a mental element, that lent some explanation to the cause.

The President related a case, not unlike the last, of a woman 35 years old, who was childless, and exceedingly anxious to become a mother. Her menstruation ceased, her abdomen enlarged, and pregnancy was supposed to exist. After the usual time, she was taken with pain and discharges of blood. A homœophathic physician was called; he made an examination, and told the friends that labor was progressing, and that everything was "right." He remained with her all night; labor did

not progress rapidly, and he left, and called later in the day, to find little progress had been made.

The result of the case was, that the bleeding continued for a number of days, the woman's abdomen decreased, and she has never been delivered of a child.

Dr. Reid reported a case of supposed ovarian tumor in a young woman. The enlargement on palpation and percussion manifested the usual signs of a unilocular tumor; it seemed to have a distinct attachment to the side of the uterus or the broad ligament. Yet, after a few months, it began to subside, and was now almost entirely gone.

Dr. Paoli had known of a case, where, after delivery, a tumor was found attached to the uterus, of the size of a fœtal head, which disappeared gradually, without treatment.

Dr. Marguerat detailed a case of the same character as that of Dr. Paoli's, only in this the tumor developed after delivery, not being detected at the confinement. It was attached to the left broad ligament. Six weeks after delivery, was as large as a child's head, but gave no evidence of fluid when percussed.

Under the use of friction and the internal administration of mercury, the growth disappeared.

Dr. Ferine had known of a case in the Cook County Hospital, in which an ovarian tumor was supposed to exist in a woman delivered only a few months before. A consultation was called, to determine the time of operating, when it was thought best to give the patient a cathartic. A large quantity of fecal matter, which had distended the colon, was discharged, and the tumor was gone.

Tincture of Erigeron as a Hemostatic.—A writer in the *Dental Cosmos* recommends tincture of erigeron as more efficacious than Monsel's Salt in arresting the hemorrhage following the extraction of teeth. We suppose the E. Canadense is the species employed—one of the most common and widely-diffused weeds in America.—*Richmond and Louisville Medical Journal.*

Clinical Reports.

PROGRESSIVE LOCOMOTOR ATAXY.

Clinic by PROFESSOR DAVIS.

MERCY HOSPITAL, *November 10, 1870.*

The patient before you presented himself a few days ago, at the Dispensary, for treatment. The physician in attendance, Dr. Lyman Ware, finding it a case of unusual interest, has brought him in, for your inspection to-day.

Rather more than a year ago, the patient was attacked with a sensation of weight or bearing down in the left groin, and extending around to the lumbar region, especially troublesome when he walked or attempted to go up stairs. A short time after the commencement of these symptoms, he had a sudden attack of blindness.

The blindness was partially relieved in a short time, although the sight has never been fully restored; and the bearing-down sensation, with some twitching, jerking in the muscles, has continued, more or less, up to the present time. The course of the lower two-thirds of the spine, the region of the left groin, and the entire surface of the lower extremities, you notice, is very sensitive to the touch. The slightest touch at any of these points causes quite as much or more pain than is produced by more decided pressure, showing plainly that there is a mere morbid sensibility of the parts, and not an inflammation in them. As the patient entered the hall, you noticed that he was somewhat uncertain in his movements, and inclined to steady himself by the table, chairs, or whatever was within his reach. When we requested him, however, to walk a short distance before you by directing his course to a certain point and fixing his attention upon his movements, he controlled them sufficiently so that there was no apparent unsteadiness in his gait; but, had his attention been suddenly withdrawn, he would probably have reeled, and been inclined to fall. There is, evidently, no para-

lysis present here, but the difficulty is owing entirely to an impairment of the power of co-ordination.

The impairment in this case is so slight that the unsteadiness of the movements would not ordinarily be noticed without the attention was directed specially to them.

In cases further advanced, the gait becomes unsteady and reeling, as that of an intoxicated person. Special difficulty is experienced in mounting stairs on account of an inability to raise the feet from step to step. The patients frequently complain of acute pains of a variable character, like those of rheumatism, moving from one organ or portion of the body to another.

Perverted sensations, not actual pains, are also experienced, such as thrills and jerkings in the muscular strictures, like shocks from a galvanic battery. These alterations of sensibility are derived from the nerves of sensation, and are associated particularly with this condition of failing co-ordination.

Should pain in the head and dizziness be complained of among the prominent symptoms, some disease in the cerebrum or cerebellum should at once be suspected. When, however, the first and most prominent symptoms are a morbid sensibility of the extremities and impairment of co-ordination, we may be pretty sure that we have a case of progressive locomotor ataxia.

The progress of the disease is slow at different stages of its course; it may even remain stationery for considerable periods. Its progress is always resumed, however, and generally continues to the end in spite of any course of treatment which has, as yet, been discovered.

Sudden attacks of blindness, either partial or total, almost always occur in connection with the disease. Frequently, dark spots are perceived, apparently floating before the eyes, and the pupils are largely dilated. Where opportunity has been offered for examination after death in these cases, the optic nerve has been found to be more or less atrophied. The principal lesion, however, consists of an alteration in the deposit of nerve structure in the lower third of the spinal cord. This alteration may be limited to a space of not more than two or three inches in

length, and consists of a deficiency of nerve substance, and a substitution for it of amylaceous or fatty matter. The fibrous or connective tissue of the cord is not atrophied, but rather increased or thickened. This atrophy extends also to the roots of the spinal nerves.

The direct cause of the disease is involved in obscurity. All the cases that I have met with have occurred to persons addicted to the immoderate use of tobacco, and I am inclined to consider this a predisposing cause, although it cannot, of course, be considered a direct exciting cause. I think that the excessive use of tobacco retards nervous growth and nutrition. Other influences have also been assigned as predisposing causes, such as excessive sexual excitement, either solitary or social. It would be logical to suppose that everything which exhausts and impairs nervous nutrition, would act as a predisposing cause—a damp, changeable climate, and occupation in damp, unhealthy rooms, would be classed among these causes. It is probable, however, that there is something in the system of the patient which acts as the direct exciting cause.

Treatment.—As regards the possibility of checking the progress of the disease by any course of treatment, we must confess that experience has not given us the best encouragment to hope for favorable results. It used to be the custom to blister, cauterize, introduce seatons, etc. These measures were found, however, to only hasten the development of the disease. Alcoholic stimulants, recommended by some authorities, are also contra-indicated on account of their action in retarding healthy nutrition and promoting the tendency to fatty degeneration. What we wish to accomplish is, to bring back a healthy nutrition of the nerve structures. Phosphorous is well known to be an abundant element in nerve structures, and we may expect, therefore, to derive some benefit from the administration of phosphoric acid and the phosphites—generally prescribe phosphoric acid, combined with compound syrup of the hypophosphites; a teaspoonful before each meal. To lessen the morbid sensations, think that fluid ext. cannabis indica, 10 to 15 drops, three times a-day, is the most appropriate in those cases. The

opiates produce too much general derangement. Belladonna, Hyosciamus, and ergot, all tend to produce the quieting effect desired. The ergot is liable, however, to produce too much capillary contraction. If digestion is not good, should prescribe liquid Rennett, teaspoonful after each meal.

The patient should be allowed a good, plain, substantial diet, plenty of milk, milk-whey, buttermilk, etc. No tea or coffee should be allowed, or at least only a single cup, very weak.

Alcoholic stimulants and tobacco should be rigidly excluded. The patient's chances of recovery will be greatly increased, if he will leave off the use of tobacco entirely.

The patient should be encouraged to take a moderate amount of exercise in the open air every day, but not enough to produce excessive weariness; must be careful not to overtax the strength. Such a course, if followed out, offers a better prospect of benefit than any other.

Selections.

MALT EXTRACT.

By ALBERT E. EBERT.

The present time in the history of Pharmacy, may rightly be styled the era of "scientific specialities." The latest efforts in this direction are malt extracts. Two classes of preparations under this title, are met with in the market, having widely different properties: one variety may be classed among alcoholic beverages, the other is purely saccharine in nature. To the first belong the preparations of Hoff and of Koch, the latter bearing the name of Liebig. Hoff's extract has obtained a ready sale by aid of extensive advertising, a fact which is surprising, after the exposures made by Hager and Wittstein. These chemists determined it to be simply a good article of Brewer's beer, having an alcoholic strength of about three per cent., with an addition of marsh mallow root, coriander, staranise, and grains of paradise, sweetened with glycerine or sugar, flavored with the oils of lemon and orange, and colored with burnt

sugar. Koch's preparation purports to be similar to Hoff's, with the prominent advantage well set forth in the words of the proprietor, as follows: "Owing to the facilities we have in manufacturing in this country, we are enabled to sell Koch's extract at the astonishing low rate of $3.00 per dozen, or thirty cents for single bottle." He magnanimously offers to suffering humanity, lager beer at only six times its retail value, while Hoff charges about fifty per cent. more for the same article! How thankful we should be for his fortunate "advantage," and we must also feel deeply grateful after perusing the circular which accompanies this great medicine. "The most eminent medical authorities in Europe, as well as in this country, agree that this new tonic is the best *dietetic and healing remedy* known to modern science, combining both the merits of a nutritious and palatable beverage, and the virtues of an unfailing medicine for general diseases of the lungs, the chest, and the throat, while to those in good health it serves as a *pleasant table drink*, promoting their digestion, and restoring and invigorating their appetite—(for what?) This malt extract offers the most beneficial relief to the sick in all cases where the stomach, the lungs, or the throat are affected."

The reader will say, "but medical men do not recommend such nostrums." In reply, we will say that we have had prescriptions for this beer from men who lay claim to a scientific training, and have, in each case, advised the patient or messenger to procure the same by the gallon at some saloon, where they may obtain it at first cost

This proves the truth of the saying, "there is something in a name," and Malt Extract is equally as good a term as the celebrated "Stomach Bitters," whose chief advantage is the quantity of alcohol hidden by the high-sounding titles, and made into a fancy tippling drink by the aid of a few bitter roots, herbs and spices. But the greatest shame of all is the frequent recommendations and endorsement by letters, which are published by the factors of these vile nostrums, and scattered broadcast to the public, and these testimonials are frequently from men who occupy prominent positions in science—yes, even teachers in medical colleges. But, alas! we were lately astounded by seeing such an endorsement from a gentleman occupying the chair of Pharmacy, in the St. Louis College of Pharmacy. His private endorsement might have been overlooked,

but when he attached to his name his position in the College, to give it extra weight, he gave an insult to the entire organization in which he holds the office of a teacher; the remedy of making a few examples by excommunication would go far towards stopping this prostitution of our profession to such base uses.

Of the second class of malt extracts, sometimes called Liebig's, we have seen two samples, from German manufacturers, Ed. Loeflund, and Dr. H. E. Linck, both of Stuttgard. They were put up in patent medicine style, each claiming originality in the process of manufacture. This point is questionable, as malt extract has been officinal in the London, Edinburgh, and Belgium Pharmacopœias, and in long use in Germany under the name of malt sugar (Gerstenzucker.)

Prof. Liebig does not lay any claim to the discovery or introduction of this preparation; we have heard him, during his lectures denounce this attachment of his name to those extracts, it having been done in opposition to his wishes by parties who hoped to increase their sales by this seeming endorsement of their articles. We have lately made the malt extract, at the urgent request of physicians, and give herewith the process, so that pharmacists may prepare it themselves, instead of relying upon the specialist to supply it at exorbitant prices:

Take of barley malt, kiln dried, 10 lbs., av.
Water, q. s.

The malt may be obtained at the malt-houses or breweries, by the bushel; reduce it by means of the drug-mill, so that it will pass through a No. 20 sieve, and add to the meal a sufficient quantity of cold water to form with it a soft dough; then add two gallons of hot water, and apply heat so as to raise the temperature of the mixture to 150 degrees, or not to exceed 158. Maintain this temperature, with occasional stirring, for several hours, or until the whole of the starch is converted (by means of the diastase of the malt) into dextrine and glucose. The absence of starch can be ascertained by the application of tr. iodine to a small quantity of the liquor, when, if the starch has been wholly converted, no blue coloration will be evident. Then express the liquor rapidly, and pass it through a strainer. This is the most difficult part of the process, as it speedily clogs the strainer; this can be averted to some extent, by making a pulp by means of water, from common unsized paper, or filtering

paper, and mixing this pulp with the expressed liquid, previous to straining. The perfectly clear fluid is finally to be evaporated by means of a water bath, to the consistence of a thick syrup, having the sp. gr. 1,500, or approximately one pint, weighing 1½ pounds, average.

This extract has an agreeable, syrupy taste, and contains, besides the sugar of the malt, dextrine, albumen, and the phosphates of the grain. In very hot summer weather, it is liable to go into fermentation, but this can be prevented by the addition of a small quantity of glycerine.—*The Pharmacist.*

REPORT OF THE DELEGATES TO THE CONVENTION OF COLLEGES OF PHARMACY.

The undersigned, according to instructions, representing the Chicago College of Pharmacy, at the Convention of Colleges, held in Baltimore, Sept. 14, beg leave to submit the following report:

The Convention met in the hall of the Baltimore College of Pharmacy. Mr. Joseph Roberts, of Baltimore, was duly elected President, and Prof. J. Farris Moore, also of Baltimere, was chosen Secretary.

The following colleges and associations were represented: The Maryland College of Pharmacy; the Colleges of New York, Massachusetts, and Chicago; the Pharmaceutical Associations of California and New Jersey.

On motion, Drs. Squibb, Hoffman, and Stabler, and Mr. Milhau, who were present, were invited to seats in the Convention, and to participate in the deliberations. The object of the meeting being to confer upon the subject of pharmaceutical education, and a uniform standard of graduation of students. After a prolonged discussion, the following recommendatory resolutions were adopted:

1. That, in the opinion of this meeting, more attention to the preliminary education of those who propose to enter the business of pharmaceutists is needed, and it is earneslty recommended to the Colleges and Societies of Pharmacy to urge their members, and the profession generally to give greater care to this subject in taking apprentices.

2. That a term of four years' service in a dispensing drug

store be recommended to be exacted from students in pharmacy before coming up for examination.

3. That apprentices should not be taken under sixteen years of age, and shall be twenty-one years of age before being entitled to receive their diplomas.

4. That the branches to be taught in Colleges of Pharmacy should at least include lectures on general chemistry, elementary botany, materia medica, and the general facts and principles of pharmacy; and, when practicable, opportunity should be provided for general and analytical chemistry.

5. That it is inexpedient, at the present time, to recommend any uniformity in conduction of the examination for graduation, but it is earnestly recommended that whatever method of examination be adopted, should include questions both oral and written, and that particularly a familiarity with the physical properties of specimens should be insisted on.

6. The diplomas should not be recognized as evidence of qualification, unless based on four years' service in a dispensing shop.

7. That each College of Pharmacy be requested to take action on these resolutions and report next year.

This organization of delegates was, on vote, made permanent, and is to meet annually, at the same time and place as the American Pharmaceutical Association.

The meeting then adjourned.

Respectfully submitted.

ALBERT E. EBERT, *Chairman.*
THOMAS WHITFIELD.
E. H. SARGENT.
N. PIERPONT.

A NEW ANTISEPTIC.

The hydrated chloride of aluminium, to which Mr. John Gambee has recently drawn the attention of medical men and the general public, appears to be a valuable antiseptic. It is quite as potent as chloride of zinc or carbolic acid, and is at the same time non-poisonous, and devoid of unpleasant smell of every kind. These qualities will no doubt ensure its being extensively used, and at no distant date we may expect it to displace the antiseptics which are at present in vogue.

It is somewhat strange that this substance should have been

so long overlooked as a possible antiseptic, and Mr. Gamgee certainly deserves credit for suggesting the utilization of it for this purpose. The reason why it has been passed over is probably to be sought in its not being a waste product in any common chemical manufacture. The anhydrous chloride aluminium, which is manufactured in order to serve for the preparation of metallic aluminium, is far too costly on account of the troublesome nature of the process by which it is prepared—to-wit, by passing chlorine at high temperatures over a mixture of aluminium and charcoal. By placing the anhydrous chloride of alumnium in water, it is of course converted into hydrated chloride.

The most economical process for the preparation of the hydrated chloride of aluminium appears to be by double decomposition between sulphate of alumina and chloride of calcium (both of which are cheap commercial products.) When solutions of these two salts are mixed together, sulphate of lime is formed and appears as a precipitate, whilst the hydrated chloride of aluminium remains dissolved.

On allowing the aqueous solution to evaporate at a very gentle heat and afterwards cooling, crystals of hydrated chloride are produced. If an attempt be made to drive off the water from the hydrated chloride by the application of heat, decomposition will take place. Hydrochloric acid is evolved under these conditions, and oxy-chloride of aluminium is formed, and, by pushing the process, alumina is obtained as the ultimate fixed product.—*Lancet.*

The Force of Uterine Contraction.—The extreme force of uterine contraction produces a pressure of 3,402 lbs. per square inch, which is equivalent to a pressure of 54-106 lbs, acting upon a circle of 9½ inches in diameter, which is assumed as the average area of the pelvic canal. The maximum force used to expel the fœtus, by both uterine and abdominal muscles combined, is estimated by Soulin, by forceps experiments made on the dead body, at 110.23 lbs., a result which is regarded by Dr. Duncan as too large. Dr. Duncan considers 80 lbs. as the maximum force ever employed in difficult cases. This would correspond with an hydrostaticol pressure inside the uterus of 5.05 lbs. per square inch, which is greater than the uterine muscles, unaided, are capable of producing.—*Dublin Quarterly Journal Medical Sciences.*

Abridgments from Our Exchanges.

Intra-Uterine Medication.—Prof. E. R. Peaslee has written a very systematic and somewhat lengthy paper on this subject which we read in the *New York Medical Journal.*

He divides the subject in endometrical injection, and ingestion.

As is well-known, the injection of simple water into the uterus may cause very appaling symptoms; pain, faintness, and collapse. This effect is brought about by the coldness of the fluid sometimes used, which of itself may cause painful contractions; by the sudden and forcible distention of the uterus; from a certain hyperæsthesia of the mucous membrane of the urine cavity; and the fluid it is said may pass through the fallopian tubes into the peritoneal cavity causing peritonitis. It has furthermore been said, that, at times both air and water are injected, and enter open uterine vessels.

All bad effects from injections may be guarded against by adopting these precautions:

1. Let the water be at blood-heat or a little less.
2. Introduce it slowly and carefully so as not to disturb the uterine cavity. Only ten or fifteen drops are needed to fill this in a virgin, and twenty-five to forty in one who has borne children.
3. Be sure to provide for a return of the overplus of water by the side of the instrument. This implies a previous dilatation of the cervical canal to a diameter greater than the tube of the syringe.
4. Abstain from the use of all injections, if on introduction of the sound into the uterine cavity, there is found to be tenderness near the fundus, for, in such a condition, even the contact of warm water, will often cause intense agony. If there is no special sensibility of the endometrium, injections with the precautions enumerated, may be regarded as safe.

Ingestion, or the carrying of a medicinal agent directly to the seat of disease, as paint is applied over the surface to be painted, as usually practised, has no advantages over injections. By use of proper means it may be made more efficacious than injections, and almost, if not perfectly safe, when applied in the proper conditions.

It is well-known that while simple water or solutions, forced into the uterus, may cause severe symptoms, very strong and stimulating ointment will not. The reason of this is that the latter does not distend the organ; if enough were used for this purpose the bad symptoms would result. It is usually applied on cotton, and only touches the diseased surface; if only fifteen or twenty drops of water was ever used, there would never be any injury done.

Ingesta seems then not to be open to the same objections as the other method. "I advocate this method in all cases in which it is appropriate in preference to injections, and especially when strong applications are to be made."

Of solid ingesta, the nitrate of silver has been used. It has proved an unsafe remedy in some instances; it has done much damage at times, and doubtless has no advantage over milder applications.

The writer inclines not soon again to use it.

The ointments have, as applications to the endometrium, no advantage over fluids, and may be entirely displaced in practice by the latter form of medication.

The fluid ingesta are of most importance; they are the same in substance as the injecta.

Endometrical applications are appropriate in metrorrhœa (uterine catarrh) and metrorrhagia. Of course, if either of these is due t displacement of the uterus, or to the presence of tumors, the cause should be first moved if possible.

In metrorrhœa, before applying the medicine, the membrane should be thoroughly cleansed of all secretion. This may be done by injection, but ingestion is quite as effectual, and far more safe.

Ingestion of the medicament is preferable to injection; is preferable for the same reason.

In metrorrhagia, the blood may properly be removed by injection, and the styptic application to the diseased surface be made by ingestion. Injection in these cases, if properly made, is a perfectly safe procedure.

Endometrical ingestion is required in but few of the cases the gynæcologist has to treat; while injection should far more seldom be resorted to, and never unless preliminary to ingestion of curative agents, in cases where there is no other way to remove blood or secretion, or in cases of metrorrhagia, where styptics are required.

For cleansing the endometrium, a solution of salt is most valuable, and if there is no special sensitiveness a very little soap may be added.

For medicaments, the tincture of iodine is most valuable in metrorrhœa, being used at first ʒi to ʒi of water, then ʒii to ʒi, and so on, up the full strength, if needed.

The sulphate of zinc may be used grs. v. to ʒi of water at first, and then the nitrate of silver grs. v. to ʒi to the ʒi of water; the tannic acid from ℈i to ʒi to ʒi of glycerine, and chloride of zinc ʒss to ʒi of glycerine.

If chromic acid is used, it should be with great caution, and not over one part to ten of water used at first.

In mettorrhagia, the per sulphate or per chloride of iron, bears the palm.

To dilate the cervical canal preparatory to injection or ingestion, the sponge tent is the proper method if the cervix is firm and indurated. If the cervix is, however, lax and easy of dilatation, Prof. P. has found very satisfactory a set of steel dilators of his own devising.

There are five dilators in the set, from one-eighth to five-sixteenths of an inch in diameter. Each has a bulb one and three-quarter inches from its point, so that it can pass only that distance into the uterus, and therefore projects less than half an inch into its proper cavity. The instrument may be passed without the use of the speculum, and often the full dilatation may be accomplished at one visit. The dilatation should be carried to at least three-eighths of an inch, whether the fluid is to be injected or ingested.

To accomplish the reflux of fluid in injection, the Professor has devised a tube with conical extremity, three-eighths of an inch in diameter and two inches long. On the sides of the cone are three fenestra, half an inch long each, there is also a fine opening at the end of the tube. When this is inserted the fenestra open into the cavity of the uterus. The fluid is injected through one of the fenestra by means of a syringe with a nozzle perforated at its sides, but not extremity; it flows out readily through the fenestrated openings.

In intra-uterine ingestion, in order to be sure of carrying the remedy and applying it directly to the diseased surface, Prof. Peaslee has devised a tube one and three-quarter inches long, and with only two fenestræ. This tube being passed into the uterine cavity, the medicament is carried through the fenestræ and painted over the whole of the endometrium at will, by a mass of cotton.

The Physiological Effect of Muscular Exercise.— In some remarks on this subject recently made before a medical society in New York, Dr. Austin Flint, Jr., stated that there is an increased quantity of excrementitious matter produced in the system on violent muscular exertion.

Some recent experiments seem to throw doubt on this statement, but he thought their results were not correct.

Within physiological limits, the elimination of this excess of effete matter is attended, if proper nutriment be supplied, by increased nutrition. If a man in health, eating and drinking according to a correct appetite, exercise his muscular system so as to increase to its highest point the elimination of effete matter, he will correspondinly increase the nutrition of his muscular system. If we can thus develop the muscular system the rest of the body will share in the improvement.

Can a man by such exercise successfully combat the tendency to deposits in his tissues, to the formation of tubercles?

Dr. F. thought such was possible; he had seen consumptives, with tubercles already formed, go to the gymnasium and become hale and robust. He knew one case in particular where the patient became an accomplished gymnast after tubercles had been clearly diagnosed in his lungs. It would seem that these men might by increasing the deposit of normal material, have removed the disposition to the deposit of that which is abnormal.

Let a man moderately healthy, work as hard as he pleases with

his brain—if only he take the appropriate exercise to keep the system throwing off the effete matter, and appropriating in its place, healthy nitrogenized functioning matter, he will be comparatively safe.

It is better by constant exercise to keep ourselves healthy, than to break down every few months and have to take a vacation to recruit again.—*N. Y. Medical Journal.*

The Use of Pepsin.—Dr. E. P. Hurd ridicules the idea that pepsin can be of the value as an aid to digestion that many seem to regard it. Most of the substance of the pepsin we use is *starch*, and in any case, be it never so strong, a scruple of it can only digest eighty or ninety grains of aliment.

Boudault's pepsin only digests about fourtimes its own weight of albumen.

How far is our ordinary dose going to help a poor victim of indigestion through the solution of an ordinary meal?

He strongly suspects that with regard to the real effect of this agent we are very much deceived.—*Medical and Surgical Journal.*

On the Use of Bromide of Lithium.—Dr. S. Weir Mitchell in experimenting on the various bromides, finds that the bromide of lithium produces the characteristic action more promptly than any of the other preparations. This salt is very deliquescent and should be given in solution. It contains nearly 92 per cent. of bromine, while the salt of potassium has but 66 per cent., and that of sodium only 72 per cent.

This new salt seems to act efficiently in some cases of epilepsy where the bromide of potassium has failed. It is efficient in lesser doses than the latter salt, and as an hypnotic it is superior to all the other bromides.

He gives a brief history of its use in several cases of epilepsy, where, after treatment with other bromine salts, this was substituted with the effect to produce more profound effect in smaller doses; in one or two cases it seems to have had some control over the disease where the other salts had entirely failed.

Bromide of lithium is less unpleasant than that of potassium, but more so than that of sodium; it is at present much more expensive than either, but if the consumption of it was great it could be furnished at a much lower rate.—*American Journal Medical Science.*

A Case of Occlusion of the Vagina with Retention of the Catamenia, is reported by Dr. J. B. Mallory, in a woman who had borne five children. After weaning her last child she menstruated three months regularly, and then ceased for five months. At this time excessive pains and hemorrhage ensued, and in a short time there was passed from the vagina a fleshy, fibrous mass of the

size and form of an egg. The pain then ceased, but returned in slight paroxysms at intervals for five or six months, during which time her menstrual function did not return.

Twelve months after cessation of the flow she was attacked with such severe pains in the region of the pelvis that she came to the writer. On examination per vaginum an obstruction was found that completely occluded the canal. The obstruction was diagnosed as an adhesion of the vaginal walls, which had probably taken place after the discharge of the egg-shaped mass. Back of the obstruction there was a large tumor, evidently accumulated secretion from the uterus.

A small opening was made through the septum, which was found to be an inch and more in thickness, and a tarry fluid flowed out. She continued to improve for about three months, when an inflammation occurred in the left iliac region, which passed on to suppuration; subsequently the opposite side became similarly effected, discharging freely for several weeks.

The opening through the obstructing septum becoming occluded another opening had to be made subsequently; this was made larger and after some drawbacks the patient recovered her menstrual function.—*Richmond and Louisville Medical Journal.*

Treatment of Pulmonary Consumption.—Dr. C. J. B. Williams of London sums up, in the *Lancet*, the result of his forty years of observation on this subject somewhat as follows:

When he began practice two years was regarded as the limit of life of the consumptive.

Ten years showed a marked improvement in results of treatment, mainly from the use of alterative tonics, such as iodide of potassium, with sarsaparilla or other vegetable tonics.

At this time a good article of cod liver oil began to be procurable, and he has no hesitancy in saying that this agent has done more for the consumptive than all other means put together. Its usefulness and efficiency have gone on increasing in proportion to the greater facility for obtaining it pure, and to the improvement in the manner of giving it in combination with various tonics, and in conjunction with certain rules of diet and regimen.

As a result, during the forty years, the average life of the consumptive, under proper treatment, has increased from two to eight years.

Regarding consumption as a disease of degeneration and decay, his treatment is, of course, for the most part sustaining and invigorating, consisting of such means as rich food, tonics, stimulants, fresh air, and the like. But as many cases originate in inflammation, and are aggravated and kept up by it, a mild antiphlogistic treatment is at certain stages often called for, such as salines, at times antimony, catsplasms, leeches, and blisters. He thinks there is at present a tendency to ignore too much this indication.

The tonics he makes use of mainly are quinine, salacine, and iron; but the pure bitter tonics are often found very beneficial, as also mineral acids, which he almost invariably gives in conjunction with the cod liver oil.

But the latter agent is most of all important.

This he rarely gives in doses greater than a half-ounce three times a day, and he interdicts, while it is being administered, all other fatty substances.

When cod liver oil cannot be taken, he falls back upon the old treatment, with iodide of potassium, nitric acid, and a bitter tonic, adding to each dose a drachm or two of pure glycerine.

The hypophosphites of soda and lime have in his hands proved decidedly beneficial in certain cases.

In cases where the larynx or trachea are effected, or there is convulsive cough, or offensive expectoration, inhalations are quite valuable.

He regards the inhaling instruments of little use, but prefers a quart jug of hot water into which the medicine is dropped. A napkin rolled into the shape of a tube is placed over the nozzle, and from this the patient inhales the steam impregnated with the medicine. This to be used a few minutes each night.

The drugs proven to be most valuable for this means of exhibition are creosote or carbolic acid, iodine, chloroform, oil of turpentine, and juice or extract of hemlock; a few drops of one or each of several being dropped into the water when used.

Under careful treatment the life of the consumptive may be prolonged for many years, and in not a few cases he may be cured.—*Richmond and Louisville Medical Journal*

Acute Malarial Toxæmia, and the Pathology of Diseases of Malarial Origin.—In an ably written report on this subject by Dr. H. S. Hudson, of Alabama, the ground is taken that "the rapid and extensive destruction of the red corpuscles and the discharge of their contents into the liquor sanguinis, is the primary pathological lesion" in all malarial diseases. Furthermore, that a comparison of the symptoms and *post mortem* appearances of the body in cases of severe malarial poisoning, with those of the bilious remittent of tropical climates, and malarial yellow fevers, will leave no doubt as to the unity of causation of these diseases; while these diseases are not marked by strict uniformity of symptoms, they are sufficiently so to be called acute malarial toxæmia.

Dr Hudson gives the history of a case in which the poisoning was so intense as to cause death in about three days, and *post mortem* the tissues were found nearly dry from absence of blood; the viscera were pale and blanched; the bladder contained about ten ounces of very dark, almost black urine, which on examination was found to contain a large amount of hæmatine, casts of tubuli, and a few altered blood globules. The blood was markedly deficient in

red corpuscles. This case is typical of its class, and shows the real pathological condition of them all.

Heretofore the primary lesion has been regarded as an effect of organic perturbation, instead of being viewed in its true light.

One reason why this lesion of blood corpuscles has been overlooked, is the fact of the great difference in intensity of these diseases, while in all, the secondary disorders of the visceral organs overshadow the lesion upon which the disorder depends; beside, in a mild case, the retrograde metamorphosis is able to carry off the products of blood disintegration and leave nothing of them discoverable. In the case here recorded, at the autopsy no sufficient lesion of any visceral organ was found to account for the death of the patient. Death occurred when the amount of healthy blood was so far reduced that it was no longer able to supply the system with the oxygen necessary to life. There was evidently a death of the blood in the vascular system as shown by the hæmatine in the serum and urine, and the elimination of it by the kidneys before the debris of the cell membrane appeared in the latter fluid.

The microscope revealed the fact, that what the liquor sanguinis had gained, the red corpuscles had lost; the latter were nearly all colorless and shriveled up. The appearance of the hæmatine in the urine is coincident with distressing pain in the lumbar regions.

Two great dangers to be apprehended are, renal congestion, and obstruction of the ducts of the liver. Protein compounds in excess greatly increase the secretion of bile. By the destruction of the red corpuscles, and the discharge of the globulin into the liquor sanguinis we have this excess.

The increasing proportion of bile in the urine is what, in these diseases, we might expect, as the disorder increases in intensity and the tissues become deluged with bile.

Amputations in the Pennsylvania Hospital.—Dr. T. G. Morton has prepared tables giving an account of all cases of amputation in the hospital named, during the decade ending January 1, 1870, with a statement of the mortality from this operation during forty years.

During the ten years there were performed 321 major amputations, upon 311 patients. Of these 227 were cured, 83 died, and 1 removed.

Of 30 foot and ankle amputations,	22	were cured,	8	died.	
" 29 thigh	"	17	"	"	12 "
" 5 hip-joint	"	2	"	"	3 "
" 22 knee-joint	"	12	"	"	8 "
" 102 leg	"	70	"	"	32 "
" 10 shoulder-joint	"	7	"	"	3 "
" 50 arm	"	34	"	"	16 "
" 2 elbow	"	2	"	"	0 "
" 48 fore arm*	"	42	"	"	5 "

*1 Removed by request.

Of 23 wrist and part hand amputations all were cured.

Of the 321 amputations, 239 were primary; of these 176 were cured, 63 died. 22 were secondary operations, of which 11 were cured, and 11 died; 60 were amputations for chronic diseases, of which 51 were cured, and 9 died.

Of 61 amputations at the joints, 44 were cured, and 17 died. Out of the 134 amputations at the upper extremities, 111 were cured, and 23 died. Of 187 amputations of the lower extremities, 124 were cured, and 63 died.

114 patients were under 20 years of age; of these 98 were cured, and 16 died. 84 patients were between 20 and 30; of these 63 were cured, and 21 died. 65 patients were between 30 and 40; of these 45 were cured, and 20 died. 25 patients were between 40 and 50; of these 16 were cured, and 9 died. 23 patients were above 50; of these 7 were cured. and 16 died.

During the forty years ending with January last, 749 amputations were performed on 735 patients; 548 were cured, 186 died, and 1 removed. 500 were primary operations, performed during the first twenty-four hours after injury, of which 117 died; 105 were secondary, of which 42 died; 144 were for chronic diseases, of which 27 died.

232 of the patients were under 20 years of age, of whom 206 were cured, and 26 died. 217 were between 20 and 30, of whom 164 were cured, and 53 died. 152 were between 30 and 40, of whom 105 were cured, and 47 died. 87 were between 40 and 50, of whom 56 were cured, and 31 died. 44 were upwards of 50, of whom 23 were cured, and 21 died.

Ether has been almost invariably used as the anæsthetic, and "no death has, I believe, ever occurred in the hospital from its use." At times, ether has been combined with chloroform, and one sudden death occurred from this mixture, during an operation for necrosis. —*American Journal Medical Science.*

Abdomino-Vaginal Impalement.—Dr. W. M. James tells of a case of accident of this character that is both curious and instructive.

A woman weighing nearly 200 pounds, climbs a hay-mow in search of eggs; leaping down on a pile of hay, there chances to be a pitchfork projecting, handle upward, upon which she falls. The handle of the fork enters the vagina, plunges through the vaginal wall, making a rupture just at the right of the mouth of the womb and behind it; it passes upward through the abdominal cavity until it strikes the ninth or tenth rib, near the spinal column on the left side. The handle was arrested by the ribs, and held so firmly that the woman was carried over at right angles from the mow, the whole weight bearing on the instrument.

After all this violence within the abdominal cavity, the woman made steady improvement and went on to complete recovery. Opium was freely used, and disinfectants to the vagina.

After the vaginal wound healed, an abscess formed in the region of the injured rib, which was opened externally.—*Journal Gynæcological Society.*

Asylum Schools for the Insane.—Several of the public institutions of Europe have for many years past had, to their ordinary treatment of lunatics, the addition of a well-ordered school, in which patients are instructed in the various fundamental branches of a common school education, as in any of our public schools. This practice has never been introduced into the American asylums.

The system, by those who practice it, is said to work admirably. Of course it is not expected that lunatics will deport themselves or make progress in their studies like sane persons, but they are found to invariably take to the school exercises, not merely with willingness, but with real enthusiasm; and it furnishes a diversion for the mind, a new exercise with which to amuse and entertain patients, which is found very beneficial to the particular class of invalids.

As might be expected, the amount of real knowledge gained by these people, to be carried with them when discharged, is small; but the object of the system is more to amuse, divert, and exercise the mind of the patient; it is an exercise, by the use of which only, says one of the superintendents, "what may be called the *moral treatment* can be fully carried out."—*American Journal of Insanity.*

Dislocation of three Cervical Vertebræ—Reduction and Recovery.—Dr. Theodore Myers, of Belleville, Ill., reports a case in which he avows this very remarkable set of circumstances took place. A patient, a large man, was accidentally caught by his clothing upon a shaft in a mill, which revolved at the rate of sixty times per minute; he was rolled up backwards and the shaft made a good many revolutions before it could be stopped.

Two hours after the accident, Dr. Myers found the patient lying upon his back, with his head twisted to the left, the third, fourth, and fifth cervical vertebræ dislocated laterally, and at the same time so rotated upon their axis that the spinous processes occupied a nearly lateral position. There was a knoll-like projection into the curve of the neck, on the right side, above the shoulder, which proved to be the head of the humerous dislocated, forwards and inwards; the left arm and both lower extremities were almost completely paralyzed.

An assistant was instructed to make gentle traction upon the head, and the doctor, by slight pressure upon the spinous processes of the vertebræ and rotation at the same time, was enabled to effect the reduction of the displaced bones Both the patient and the surgeon "heard and felt," distinctly, the snapping of the bones as they were replaced. The head at once recovered its proper position and mobility.

Complete recovery took place in two or three weeks.—*St. Louis Medical and Surgical Journal.*

Therapeutic Effects of Gelseminum.—Dr. E. A. Anderson, of North Carolina, experimented very extensively during the war with the Gelseminum, in his efforts to find some agent that would serve the purpose of quinine in intermittent and remittent fevers. He now uses this agent — the Gelseminum — almost exclusively in intermittents, especially in children, to whom it is especially adapted, from its absence of any of the unpleasant taste of quinine; he has seldom been disappointed in its effects. He employs the tincture (℥iv. bruised root to Oi. alcohol) or the fluid extract of Tilden. Dose in the proportion of twenty drops to an adult.

It should, like quinine, be given before the expected paroxysm—four to six doses should be given before its onset is expected.

He says, "I have found it a reliable agent in intermittent, remittent and typhoid fevers; acute and chronic rheumatism; in inflammations of the lungs, pleura, and pneumonia. I have, for several years, used it almost exclusively in pneumonia, in place of veratrum, and consider it the best agent in this disease. You can reduce the force and frequency of the circulation with it, as certainly as by venesection, digitalis, or veratrum, without the distressing effects of these agents, while, at the same time, it allays the morbid heat, restlessness, and irritating cough."—*Journal Materia Medica.*

Opomorphia.—In a communication to the *British Medical Journal*, Dr. F M. Pierce says of this new medicinal agent, that it is obtained by subjecting morphia to the action of pure hydro-chloric acid, at a high temperature, for several hours. In composition opomorphia is morphia, *minus* one atom of water. In its clinical reaction, it is very different from morphia. It is, in some degree, soluble in cold, and much more in warm water. In powder, it is of a snow white color. Its watery solution is at first colorless, but it soon changes to a dark green, and, in a few weeks, to an almost black color. The nature of this decomposition is not certainly known; morphia, however, is not reproduced. The effect of the colored solution differs from the fresh preparation only in being a little weaker, and slightly more irritating to the skin.

The chief physiological effect of this drug is that of an emetic. So powerful is it in this direction that persons engaged in its manufacture, with all possible precautions against it, absorb sufficient through the skin and lungs to keep them nauseated nearly all of the time they are at work.

One-fifteenth of a grain is a sufficient dose for an adult. He has frequently given one-fortieth of a grain as an emetic to children; he administers it usually subcutaneously, inducing emetics in this way as promptly as when taken by the mouth.

As an emetic, he has used it in pneumonia; to relieve the throat of enudation in diptheria; in scarlatina, in poisoning, and in drunkenness.

As an emetic, it is a depressent, but not to a dangerous extent; sometimes, after emesis, a little drowsiness is observed, but, with sufficiently small doses, this is never a formidable effect. The pulse, respiration, and temperature are not peculiarly effected; neither are the functions of the kidneys or bowels.

Opomorphia is peculiar in the suddenness of its vomiting, the usual premonitory phenomena being almost entirely wanting; generally, there is only one short vomit following a dose, although others may follow.

Dr. Pierce has used it in some cases of cholera, one of which he reports; he gives a dose sufficient for its emetic effect once in two or three days, and has had the pleasure of seeing several of his patients rapidly recover under its use.

But as an emetic, Opomorphia is pre-eminent in the smallness of dose required; the certainty and rapidity of its action; the unimportance of any baneful effect; and its non-irritating character.

It is at present very expensive, but in a short time its more extensive manufacture will doubtless reduce its price so that it may come into more general use.—*Braithwaite.*

Preservation of Anatomical Specimens.—Dr. Thos. Dwight, Jr., of Boston, at the last annual meeting of the Massachusetts Medical Society, read a paper detailing some experiments to effect the preservation of dissected anatomical specimens, so that they may retain their original properties indefinitely. Such a consummation he regarded as exceedingly desirable, as it would furnish not only the teacher of anatomy means whereby he could illustrate parts of his subject without actual dissections before his class, but it would provide the surgeon with means of refreshing his memory before an operation, such as neither plates nor dried preparations can give.

He first experimented with a mixture of carbolic acid and glycerine (1 to 5), thoroughly rubbing it into the specimen, (a dog's leg). This preserved the form and flexibility of the muscles perfectly, but they were of a dark color. To avoid the discoloration, retaining the preservative effect, he used various combinations of this mixture with alcohol, chloride of sodium, and nitrate of potash. It was found that great care is needed, when using the alcohol, to avoid getting so much as to harden the tissues and to prevent their flexibility; and with too little alcohol and omission of the carbolic acid, a dipocere was developed after a few weeks; this, however, he was able to check by bathing the part in alcohol.

His conclusion is, after many experiments, that for soft, muscular structures, the following mixture is superior to all others: To a mixture of 6 parts glycerine to 1 part alcohol, there is added in excess a mixture of chloride sodium 2 parts, and nitrate potassa 1 part.

This is thoroughly rubbed into the specimen, which is then rolled in a cloth wet with the mixture. In the course of a week or two the part is again rubbed with the preservative material. In a forearm dissected to show muscles, arteries, and nerves, preserved with this mixture, he says, "the color, though not red, is better than in in preceeding specimens, and in all other respects it is almost perfect."

For preserving specimens of bone and cartilage, with membranes and ligaments attached, and for hard tumors and the like, he prefers a mixture of glycerine 7 parts, alcohol 3 parts, and carbolic acid 3 parts. This he injects into the medullary cavity of bone and rubs thoroughly into the outer surface.

In preserving soft specimens, the blood must be entirely removed by soaking or injecting water through the vessels; when the latter is resorted to, a little carbolic acid added to the injection is beneficial.

Any drying subsequent to the preserving process is easily prevented by applying a little glycerine.

Book Notices.

The Pathology and Treatment of Venereal Diseases, including the results of recent investigations on the subject. By Freeman J. Bumstead, M.D., Professor of Venereal Diseases at the College of Physicians and Surgeons, New York; Surgeon Charity Hospital; late Surgeon to the New York Eye and Ear Infirmary, etc., etc. Third edition, revised and enlarged, with illustrations. Philadelphia: Henry C. Lea. 1870.

The previous editions of this work are already extensively and favorably known to the profession. In the present edition, the author has faithfully added everything of importance, both in regard to pathology and treatment, which had been developed since the issue of the second edition. For the general practitioner it is one of the very best works on venereal diseases with which we are acquainted. For sale by W. B. Keen & Cooke, Chicago.

A Treatise on Physiology and Hygiene for Educational Institutions and General Readers; fully illustrated. By Joseph C. Hutchinson, M.D., President of the New York Pathological Society, etc., etc. New York: Clark & Maynard, Publishers, 5 Barclay St. 1870. Pp. 270; price $1.60.

This is a small volume, neatly published and very fairly illustrated with cuts.

It is too brief to contain more than a summary of the principal facts in physiology and hygiene; but the work of condensation has been performed by the author with a fair degree of skill and good judgment. We are sorry to see, in the two brief pages devoted to the subject of alcoholic drinks, a repetition of some mischievious popular fallacies. Otherwise we freely commend the book to public favor. For sale by S. C. Griggs & Co., Chicago.

The Transactions of the American Medical Association for 1870—Vol. 4.

We have just received a copy of this elegantly published volume of 612 pages.

It contains the record of proceeding of the meeting in May last; the reports of the officers and standing committees; the address of the president; the numerous papers and reports read and discussed in the several sections; and the prize essay on the treatment of aneurism. Some of the papers are admirably illustrated by plates, and from a hasty glance at the contents of the volume, we are inclined to think that it is one of the most valuable of the series hitherto published by the association.

The present volume, and any of those named in the following list, may be obtained by remitting the price to Caspar Wister, Treasurer, 1303 Arch Street, Philadelphia:

The following volumes are for sale:

Proceedings of the Meeting of Organization, 50 cents.

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Volumes V., VIII., IX., XII., or XIV. will be furnished in exchange for any of the volumes out of print.

Photographic Review of Medicine and Surgery. A bi-monthly illustration of interesting cases, accompanied by notes. Edited by F. F. Maury, M.D., and L. A. Duhring, M.D. Published by J. P. Lippincott & Co., Philadelphia.

We have received the first number of this new periodical, issued in October. Its contents are: Multilocular Hydatid Tumor, by S. D. Gross, M.D.; Meningocele, by D. Hayes Agnew, M.D.; Horny Tumors, by Wm. H. Pancoast, M.D.; Keloid Tumor, by F. F. Maury, M.D. Each of these is accompanied by an admirable photographic view of the disease.

The subscription price is $6 per annum.

The enterprise should receive a liberal patronage from the profession.

A Sketch of the Early History of Practical Anatomy. By W. W. Keen, M.D., Lecturer on Anatomy and Operative Surgery, Philadelphia School of Anatomy; Lecturer on Pathological Anatomy in Jefferson Medical College.

This is a peculiarly happy, interesting and instructive pamphlet, presented in the form of an introductory address. The writer calls us back to the first efforts to advance the science of Anatomy, which was in the city of Alexandria, about 300 years before Christ, Egypt then being the medical centre for the whole world. All the great men of the world repaired to Egypt for instruction. Galen went from Rome to Egypt to see a human skeleton, the practise of burning the bodies at Rome prohibiting the study of practical anatomy on the human subject. With the fall of Alexandria, the science of Anatomy declined, and was not known for a period of twelve centuries, when it was again revived in Italy, at the city of Bologne.

Italy now became the centre of learning for the whole world, and at the famous University of Bologne, there were 10,000

INDEX TO VOL. XI.

PAGE.

Abdominal Cavity, Inflammation within, by F. K. Bailey, M.D., 129
Address by J. H. Brewer, M.D., 104
Address of Prof. J. S. Sherman, 241
Address before American Association of Medical Editors, by N. S. Davis, M.D., 413
Aggregation in the Dublin Lying-in Hospital, 253
A New Year and a New Volume 51
Anæsthesia, Relative Danger of, by Chloroform and Ether. By Prof. E. Andrews, A.M., M.D., 259
Anatomy. By Henry Gray, F. R.S., and T. Holmes, M.A., 387
Aphonia, New Treatment for, 636
Archives de Physiologie, A. Book, 51
Arts, The, Published by Jos. M. Hirsh & Co., Chicago, 183
Association, Alumni, 179, 239
Association, American Medical, 59, 184, 390, 712
Aspirateur Souscutane, Dr. Dieulafoy's, 245, 392
Atropia *versus* Opium. By Theodore Griffin, M.D., 488
Antiseptic, A New, 759
Amputations in the Pennsylvania Hospital, 767
Abdomino-Vaginal Impalement, 768
Anatomical Specimens, Preservation of, 771

Bromides, the. By F. K. Bailey, M.D., 19
Bright's Disease, Pathology of. By W. B. Lewis, M.D., 50
Biliary Calculi, Convulsions and Death. J. A. Ballard, M.D., 135
Bright's Disease, Milk Diet and Treatment of, 700
"Bitters," The Sale of, 316
Board of Public Works, Report, 451
"Bridge Cases," Pathology of the, 517
Bromides, The. By Z. McElroy, 584
Bromide of Potassium, its Effects on Children, 638
Biliary Calculi, Chloroform in Treatment of, 649
Bloodvessels, Minute History of, 702
Bromide of Lithium, The Use of, 764

PAGE.

Chloroform, Death from 59
Chloroform, almost a Death from, 397
Copper, Effects of on the System, 60
Coccyodynia, Case of. By W. R. Fox, M.D., 76
Consumption, Climate for Cure of, 118
Congenital Syphilis. By W. H. VanBuren, M.D., 115
College Commencement, 179
Catarrh and Bronchitis, Treatment of. By G. Johnson, M.D., 167
Chicago Medical College Commencement, 246
Clinical Medicine and Physical Diagnosis, Manual of. By T. H. Tanner, M.D., 245
Cell Doctrine. By J. Tyson, M.D., 244
Children, Diseases of, 245
Conjugal Onanism. By L. F. E. Bergeret, 310
Chicago Medical College, 313, 366, 455, 586
Cynauche Tonsillaris, 397
Cinchona, 462
Chloral, 460, 513 628
Cerebro Spinal Meningitis. By D. A. Sheffield, M.D., 485
Copper as a Preventive for Cholera, 522
Chloroform, Use of in Ophthalmic Surgery. By H. W. Boyd, M.D., 554
Carbolic Acid, Double Salts of, 634
Compendium of Medical Science, 640
Correction—New Work 641, 776
Cervical Pneumogastrics, 697
Cardiac Disease, Rare Form of. By N. S. Davis, M.D., 677
Catarrh, A New Remedy for, 683
Cancer of Uterus, 696
Clinical Reports—Clinic of Prof. Davis, 145, 284, 705
Croup, Treatment of, 704
Carbolic Acid, Poisoning by. By T. G. Roddick, M.D., 715
Cervical Vertebræ, Dislocation of Three, Reduction and Recovery, 769

Diploma Venders, 52, 146, 182
Diplomas, Bogus, 124

PAGE.
Dislocations, Compound. By Jos Lister, F.R.S., 578
Diabetes Mellitus, 700
Essays, Four Prizes for, 55
Epilepsy, Treatment for, 59, 462
Exuberance of Life in Great Varieties in Ocean's Depths, 186
Epileptiform Convulsions. By Brown-Sequard, 137
Enuresis, Collodion in, 396
Epilepsy. By Brown-Sequard, 404
Ergot, 459, 461
Endometritis, Uterine Injections in, 521
Explanation, 585, 711
Exchanges, 711
Eczema, 715
Erigeron as a Hemostatic, Tincture of, 751

Foreign Items, 53
Fragment of Knife-blade Lodged in Chest. By J. F. Snyder, M. D., 401
Fatty Degeneration, 700

Gu as, Scarification in Dentition, 41
Gynæcological Society of Boston, 583
Gelseminum, Therapeutic Effects of, 770

Hip Dislocations. Reply of Prof. Bigelow to Prof. Gunn, 25
Hospital Notes, Reports, etc., 33, 688
Homœopathy, Modern, 55
Hydrophobia, Indian Hemp in, 186
Humanity, Oldest Relic of, 188
Heart, Diseases of. By Austin Flint, M.D., 311
Humbolt Medical College, 366
History of Medicine, A Chair of, 462
Hemp, American, Value of, 650
Humulus Lupulus in Intermittent Fever, 639
Heart, Prognosis in Chronic Diseases of the, 629
Heath's Practical Anatomy, 709
History of Minute Bloodvessels, 702

Intraocular Tumors, a Treatise on. By H. Knapp, M.D., 50
Infants and Children, Diseases of. By Eustace Smith, M.D., 178
Intemperance, 253
Illinois State Medical Society, 246, 249, 312, 490
Iodine in Goiture, 238
Indigestions. By T. K. Chambers, 311

PAGE.
Insanity. By F. K. Bailey, 385
Indiana State Medical Society, 425
Insane, Asylum Schools for the, 769
Intra-Uterine Medication, 761

Jefferson Medical College, 368
Joints, 635, 699

Kansas Medical Law, 249
Kidney, Excision of, 396

Letter from Vienna. By F , 95
Letters from F. K. Bailey, M.D., 149, 413
Locomotor Ataxy, A Lecture. By Meredith Clymer, M.D., 152
Letter by F., 213
Liver, Glycogenic Function of, 458
Licences, Report in Relation to, 506
Liver, Cancer of. By Prof. Davis, 529
Lachrymal Obstructions. By H. W. Boyd, M.D., 593
Limbs, Reproductions of, 646
Letter from Theo. Griffin, M.D., 624
Letter from E. Holderness, 634
Liver, Encephaloid Cancer of the. By T. G. Williams, 686
Lecture, Introductory. By H. A. Johnson, M. D., 657
Locomotor Ataxy, Progressive. Clinic by Professor Davis, 752
Medical College Education, 52
Medical College Convention, 54, 180, 353, 377, 383
Mortality Report, 56, 125, 189, 251, 315, 391, 457, 525, 587, 651, 717, 777
Medical "Wrinkles," 462
Mechanical Support during Labor, 445
Medical Society, Chicago, 180, 312, 438, 523, 565, 746, 749
Medical Society, Allen County, 390
Medical Society, Transactions of, State of New York, 387
Medical Societies, Proceedings of, 388
Mercy Hospital, 140. 439
Mental and the Physical. By F. C. March, M. D., 65
Medical Colleges in Chicago, 356, 641, 645
Medical College of S. Carolina, 372
Medical Department of Harvard University, 361
Medical Department of Williamette University, 367
Medical Institution of Yale College, 361

PAGE.
Miami Medical College, ---------- 371
Morphia, ----------397, 461
Medical Ethics, ---------- 121
Military Tract Medical Association, Report of, ---------- 102
Minnesota State Medical Society, 182
Malformation in the Uterus not Produced by Mental Influence of the Mother, ---------- 519
Medical Association, British, --- 642
Money Receipts, ----------719, 785
Medicine and Surgery, Photograph Review of, ---------- 716
Muscular Exercise, Influence of on the Urine, ---------- 712
Milk, Secretion of Restored by Electricity, ---------- 718
Mouth, Deformity of the. Diffenbach's Operation, ---------- 692
Medical Journals Changes in, --- 182
Malt Extract. By Albert E. Ebert, ---------- 755
Muscular Exercise, The Physiological Effect of, ---------- 763
Malarial Toxæmia, Acute, and the Pathology of Diseases of Malarial Origin, ---------- 766

Nebraska State Medical Society, 50
New York Academy of Medicine, 254
National Medical Journal, ----- 313
Nephrotomy, ---------- 317
New Mercy Hospital, ---------- 312
Notes from the Wards of Mercy Hospital. By C. W. Earle, M.D., 277
Naval Hygiene. By Jos. Wilson, Surgeon, U. S. N., ---------- 584
Neuralgia of the Jawbones, ----- 633

Os and Cervix Uteri. By Noble Holton, M.D., ---------- 1
Opium Eating, Excessive, ------ 60
Ovariotomy—Sequel of Dr. Russell's Case. By J. F. Kelsey, M.D., ---------- 133
Obstetric Aphorisms. By J. G. Swayne, M.D., ---------- 178
Obstetrical and Gynæcological Section of the 48d Congress of the German Physicians, etc., -- 234
Oxygen Gas as a Remedy in Disease. By A. H. Smith, M.D., 290, 625
Old University of Bologna. By F. H. D., ---------- 288
Our Home Physician. By Geo. M. Beard, A.M., M.D., ------- 388

PAGE.
Ovariotomy—Twice on one Patient, ---------- 461
Obituary—Jos. S. Hildreth, M.D., 526
Ossification of the whole Muscular System, ---------- 522
Ovariotomy, a Case of. By M. A. Chase, M.D., ---------- 534
Otology, Report on. By Saml. J. Jones, A.M., M.D., ---------- 605
Ohio State Medical Society, ---- 710
Obstetrics. By W. H. Byford, M.D 709
Opium in Metro Peritonitis. By Theodore Griffin, M.D., ------ 744
Occlusion of the Vagina with Retention of the Catamenia, A Case of, ---------- 764
Opomorphia, ---------- 770

Plastic Operations. By David Prince, M.D., ---------- 16
Prescriptions, Repeating. A Remedy for. By T. Griffin, M.D., 23
Permangnate of Potassia, ------- 32
Phosphorus and its Compounds, 57
Pepsine, a New Preparation of. By Edward Long, L.A.H., ---- 176
Prof. Bigelow's Reply to Prof. Gunn, ---------- 183
Phosphorus, an Antidote to, ---- 252
Pyemia, Treated with Sulphite of Soda. By O. W. Sadler, M.D., 198
Puerperal Fever in Cook County Hospital, ---------- 218
Phthisis, Arsenic in, ---------- 250
Prurigo Treated by Ointment of Iodoform, ---------- 317
Professional Quarrels ---------- 390
Physiology. By Wm. T. Lusk, M.D., ---------- 446
Pancreatic Secretion, ---------- 459
Professional Changes, ---------- 524
Physiology of Man. By Austin Flint, Jr., M.D., ---------- 583
Physicians and Druggists in America, ---------- 639
Placenta Previa and Double Births, ---------- 639
Plaster-Paris, Use of in Fractures. By R. G. Bogue, M.D., ------- 617
Practice of Medicine. By T. H. Tanner, M.D., F.L.S., -------- 639
Puerperal Convulsions, Tedious Labor. By N. S. Davis, M.D., 679
Pepsin, The Use of, ---------- 764
Pulmonary Consumption, Treatment of, ---------- 765

	PAGE.
Pulmonary Fetor,	787
Prizes, Fisk Fund,	776
Quackery and the Press,	393
Reply to Prof. Bigelow. By Prof. Gunn,	98
Relapsing Fever in Edinburgh,	289
Relations of Physical Forces to Disease. By F. H. Blackman,	267
Remarkable Fall. By Henry Shimer,	289
Renal Diseases. By W. R. Basham, M.D.,	450
Renal Disease, Diagnosis of,	456
Rectum, Physical Exploration of the. By Wm. Bodenhamer, A.M., M.D.,	640
Report of Delegates to the Convention of College of Pharmacy,	758
Removal of Iron Stains from Fabrics,	776
Svapnia. Letter from John M. Bigelow,	30
Spinal Cord, Modifications which take place in. By A. Vulpian,	77
Stenocardia. Lectures of Prof. Oppolzer,	171
Spring and Summer Medical Instruction,	180
Sensibility of the Nervous Centres, Errors in Relation to. By Brown-Sequard,	139
Scarlet Fever, Clinical Lectures on. By Sir Wm. Jenner, M.D.,	221
Shock,	461
Saccharine Diabetes, Bromide of Potassium in,	461
Societies, Proceedings of,	451
Strabismus. By H. W. Boyd, M.D.	465
Scapula, Excision of a,	522
Shaw's Med. and Surg. Case Book,	584
Surgery, Report on. By Moses Gunn, M.D.,	544
Sick, the,	588
Stetho-Sphygmograph, the,	649
Supra-Uterine Pressure,	631
Strychnine as an Antidote for Chloral-Poisoning,	645
Sulpho-Carbolates are not powerful direct Antiseptics,	635
Salivary Calculus, Removal of. By Chas. M. Clark, M.D.,	622
Supra-Renal Capsules,	700
Tetanus, Following Compound Fracture of the Leg, Recovery,	193
Tabes Mesenterica, With Cases. By F. K. Bailey, M.D.,	274
Therapeutics, Modern. By Geo. H. Napheys, A.M., M.D.,	310
Typhoid Fever. By A. Given, M.D.	321
Toland Medical College. Letter from Faculty of,	366
Tonsils, Enlarged, Removed without Cutting,	394
Tobacco, Smoking, Effects of on Children,	365
Tetanus Produced by the Administration of Quinia, hypodermically,	460
Traumatic, Irideremia and Aphakia. By C. Hixson, M.D.,	564
University of Michigan. Letter from Faculty of,	368
Uterus, Inverted, New Operation	516
Uterus, Inverted, treated Successfully by Elastic Pressure. By W. H. Byford, A.M., M.D.,	481
Urine, A Guide to the Examination of. By J. W. Legg, M.D.,	640
Uterus, Catarrh of the,	638
Uterus, Cancer of,	696
Uric Acid in the Blood, To Detect	743
Uterine Contraction, Force of,	760
Vegetable Parasites, Report on. By N. S. Davis, M.D.,	70
Vital Statistics,	520
Vaccinal Syphilis. By W. B. Davis, M.D.,	557
Veratrum Viride in Pneumonia,	637
Vesicant, A New,	650
Vaginal Ovariotomy,	632
Variola. By E. A. Carpenter, M.D.	674
Vaccination for Whooping-cough, with Clinical Cases. By Z. C. McElroy, M.D.,	734
White Blood Corpuscles, Relation of to Suppuration Inflammation. By A. Henocque,	201
West, Dr. Charles, Something in Regard to,	212
Woman's Hospital Medical College of Chicago,	585
Wabash Valley Æsculapian Soc'y	567
Wisconsin State Medical Society,	573
Woman's Hospital Medical College, A lecture Introductory to the Course of Instruction in the. By W. H. Byford, A.M., M.D.	721

students assembled; here the first modern dissection was performed. Notwithstanding the fame which the Italian schools had acquired, they, also, declined. And, with the sixteenth century, came a new impulse. Vesalius became teacher of Anatomy in Padua, in 1537, and from then we have, successively, Columbus, Eustachius, Falopius, Fabricus, Gassier, Ingrassias, Arætius, Vesalius, Varolius, and the names of many other distinguished anatomists. The author tells us of many of the difficulties with which the Eastern anatomists had to contend, and of the total ignorance of many professed physicians of the science. He traces the history of dissections down from Italy to England, and giving its history in England, Scotland, and Holland, alluding to all the distinguished anatomists of those days and countries. The limits of a review render it impossible to do justice to the merits of this valuable essay. It is to be lamented that no work on the history of Anatomy has yet appeared in American medical literature, and, for this fact, the essay of Dr. Keen is peculiarly valuable, as including many facts relative to the history of the science, carefully gathered and arranged. H. W. B.

A Peculiar Inflammation of the Lower Lip has been observed by Volkmaun, of Halle, which hitherto has been undiscovered. The patients were all adults, and the disease was chronic. The lip gradually swells, with little pain, and beeomes hard and firm; this condition extends to all parts of the lip, the skin is slightly reddened, and the mucous glands of the lip swell to the size of hemp seeds or larger, and can be felt through the mucous membrane as mobular masses; the excreting ducts are much dilated. Pressure upon them evacuates a turbid, mucous, or muco-purulent secretion. In some cases abscesses form in the glands or areolar tissue surrounding them. Purmuculous inflammation developes in the midst of the lip, and discharges by many small openings, which tend to be fistulous, and discharge for weeks and months.

A part of Volkmaun's cases were cured in a month or two with pot. iod. internally, mouth washes of pot. chlat., and slight cauterization of the lip; and a portion of the cases left the hospital little improved.—*Virchou's Arch, Etc.*

Editorial.

Correction.—In the November number of the *Examiner*, on page 676, line 17, the word *morbid* should be *normal.*

To Subscribers.—The present number completes the Eleventh Volume of the *Examiner.*

Recently, bills have been sent to all who stand on our books indebted for one year or more.

During the past year, our time has been so occupied, we have been compelled to allow the books of the *Examiner* to be kept by a clerk, and it is probable some mistakes have been made. We shall cheerfully make any corrections that our subscribers may point out. We shall commence the new volume with more reliable and steady assistance, and hope to receive the same friendly patronage as heretofore. We shall continue to make the *Examiner* strictly a periodical, devoted to the interests of the medical profession, and not an advertising sheet for booksellers and medicine manufacturers.

New Agent For the Removal of Iron Stains from Fabrics.—A writer in the *Chemical News* says the following method is not attended with the usual bad results, in regard to the destruction of the fibre, which, on account of prolonged contact, ensue when oxalic acid or salt of sorrel are used. The stain must be touched with yellow sulphide of ammonium, by which it will be immediately blackened; after the lapse of a minute or so, wash out the excess of sulphide, and treat the black spot with dilute muriatic acid, by which it is entirely removed; finally, wash well with water.

Fiske Fund Prizes.—The Trustees of the Fiske Fund offer the following prizes for the year 1871:

First. Ununited Fractures; the conditions under which they occur and the most successful method of treatment.

Second. Hydrate of Chloral; its physiological effects and therapeutical uses.

For the best dissertation on each or either of these subjects the Trustees will pay the sum of one hundred dollars. Essays must be sent to the Secretary of the Fiske Fund Trustees, Dr. S. A. Arnold, Providence, R. I., on or before May 1st, 1871, accompanied by a sealed packet containing the author's name, with corresponding motto or device.

Mortality for the Month of October, 1870.

Accidents, burned by kerosene	1	" & complications	2	Liver, disease of	1
" drowned	4	Diphtheria	20	" Induration	1
" in planing mill	1	Dropsy, general	5	" tumor of	1
" fracture of skull	2	" (ovarian)	1	Lungs, congestion	4
" thrown from wagon	1	" chest	2	" apoplexy	1
" run over by "	1	Dysentery	7	" hæmorrhage	2
" railroad	2	" chronic	3	Meningitis	6
" shot	1	" typhoid	1	" cerebro-spinal	1
Abortion	1	Entero-colitis	1	Mouth, gan'ous cancer of	1
Apoplexy	4	Endo-carditis	1	Metretis	1
Ascites	1	Enteritis	10	Old age	9
Asthma	1	" pericarditis	1	Paraplegia	1
" and disease of heart	1	" uterus inflammation	1	Paralysis	3
Atelectasis nonatorum	1	Epilepsy	1	Peritonitis	4
Brain, congestion	5	Exhaustion	1	Peritonitis & Colitis	1
" inflammation	5	Fever, congestive	1	Pneumonia	7
" softening	1	" puerperal,	1	" typhoid	2
Bronchitis	3	" intermittent	1	Pyaemia	2
" capillary	3	" scarlet	11	Srofula	2
" chronic	1	" " malignant	2	Stomatitis	1
Cancer of liver	1	" typhoid	49	Suicide by acid	1
" stomach	2	" remittent	3	" laudanum	1
" uterus	1	Gangrene of foot	1	" morphine	1
" kidney	1	Gastritis	2	" severing artery	1
" Vagina and pancreas	1	Gastro-Enteritis	4	Syphilis	1
Chorea and inanition	1	Heart diseases	15	Tabes mesenterica	28
Consumption	53	Hip-disease	1	Teething	13
Convulsions	52	Hemiplegia	1	Tetanus idiopathic	1
Croup	50	Hepatitis,	1	Throat inflammation	1
" diphtheretic	15	Hydrocephalus	2	Uraemia	1
Cholera Infantum	30	Inanition	14	Ulcer of bladder and urethra	1
Cyanosis	1	Intemperance	4	Vitality deficient	1
Debility general	6	Intestines gangrene and strangulation of	1	Whooping-cough	4
Diarrhœa	17	Kidneys, Bright's disease	1	" and complications	1
" chronic	7			Total	557

COMPARISON.

Deaths in Oct., 1870, 557 | Deaths in Oct., 1869, 601 | Decrease, 44
Deaths in Sept., 1870, 691 | Decrease, 134

AGES.

Under 1	153	10 to 20	26	70 to 80	12
1 to 2	78	20 to 30	59	80 to 90	5
2 to 3	34	30 to 40	42	Unknown,	
3 to 4	29	40 to 50	35		
4 to 5	18	50 to 60	28	Total,	557
5 to 10	24	60 to 70	14		

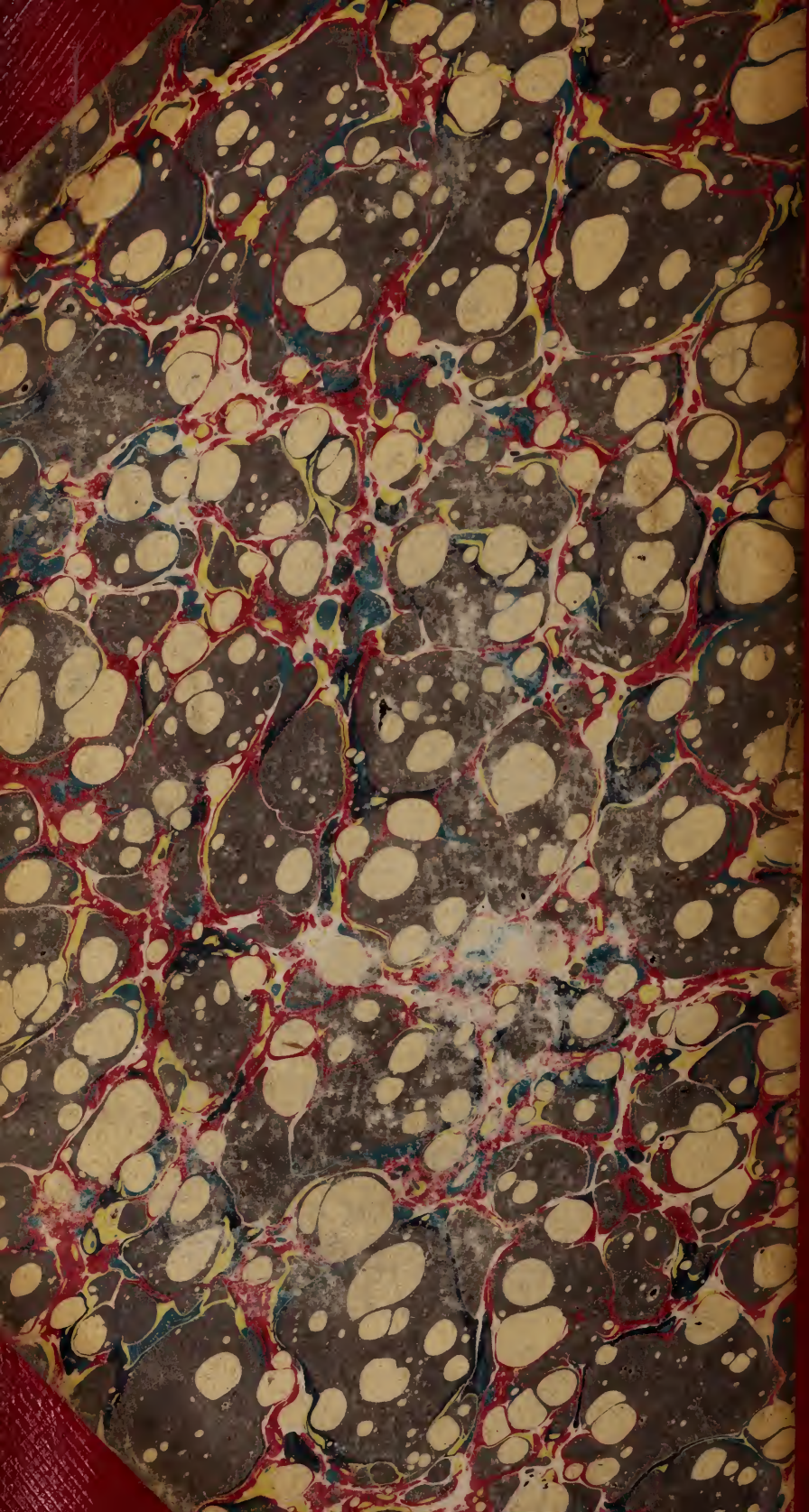
Males, 285 | Females, 272 | Total, 557
Single, 406 | Married 151 | Total, 557
White, 552 | Colored, 5 | Total, 557

NATIVITY.

Austria	1	England	10	New Brunswick	1
Bohemia	9	France	1	Poland	1
Canada	8	Germany	74	Switzerland	1
Chicago, Native	65	Holland	1	Scotland,	10
Chicago, Foreign	219	Ireland	51	Sweden	16
U. S., other parts	73	Italy	1	Unknown	6
Denmark	2	Norway	6	Wales	1

Total, 557

MORTALITY BY WARDS FOR THE MONTH.

Wards.	Mortality.	Wards.	Mortality
1	5	18	41
2	11	19	14
3	18	20	22
4	12	Accidents	13
5	13	County Hospital	13
6	29	Half Orphan Asylum	2
7	39	Hospital Alexian Brothers	
8	52	Immigrants	2
9	54	Jewish Hospital	1
10	15	Mercy Hospital	5
11	26	Police Station	1
12	20	Protestant Orphan Asylum	1
13	5	St. Joseph Orphan Asylum	5
14	14	Suicide	4
15	64		
16	27	Total,	557
17	29		

Pulmonary Fetor.—Dr. Laycock, *Edinburgh Medical Jour.* asserts that there are three distinct kinds of pulmonary fetor, that of ozæna, that of fæces, that of gangrene. The latter, due to putrescent decomposition of pulmonary tissue, is characteristic of true gangrene. The ozæna order is connected with chronic tissue changes of rheumatic origin, as with fibrinous exudation and degeneration. It is found chiefly in fetid bronchitis and bronchorrhœa, and in fetid fibroid vomicæ. The fecal order may also be observed under these circumstances, and has too, probably, a rheumatic origin.—*Richmond and Louisville Medical Journal.*